

**Bond University**

## **DOCTORAL THESIS**

### **The Effects of Goal Progress and Goal Commitment on Self-regulation**

Som, Anirban

*Award date:*  
2014

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# **The Effects of Goal Progress and Goal Commitment on Self-Regulation**

Submitted in fulfilment of the requirements of the degree of

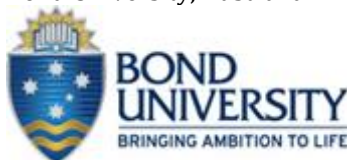
**Doctor of Philosophy**

**June 1, 2014**

**Presented by**

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Faculty of Business  
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## **Declaration**

This thesis is submitted to Bond University in fulfilment of the requirements of the degree of Doctor of Philosophy. This thesis represents my own original work towards this research degree and contains no material which has been previously submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

**Signature**

**06.2014**

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## THESIS ABSTRACT

Research exploring goal progress and goal commitment has identified that goal orientation i.e. goal progress and goal commitment can influence an individual's willingness to get distracted from his/her focal goal. However, research on goal orientation has focused mostly on showing these divergent effects. Limited research has been done to identify the moderators of these divergent effects.

Identifying moderators of these divergent effects is important in order to create a framework for research on goal orientation. In the current research, some potential moderators of the divergent effects of goal progress and goal commitment are explored.

Interestingly, research on goal orientation does not present a clear picture regarding the effect of the different stages of goal completion on the divergent effects of goal progress and goal commitment.

The current research aims to address these research gaps.

The current research identifies regulatory focus, level of goal concreteness and temporal distance of focal goal as moderators of the divergent effects of goal progress and goal commitment. The current research also provides evidence of the fact that divergent effects of goal progress and goal commitment do not alter as a function of the different stages of goal completion.

A series of six studies is conducted for answering the research questions in the current research work.

There are some interesting implications for future research in the area of goal orientation. Specifically, the current research projects where the future lies in the area of goal orientation research. Further, some methodological implications are highlighted which would make the experiments of future researchers in the area of goal orientation more robust. Some interesting managerial implications are highlighted as well.

## CHAPTER 1 - INTRODUCTION

### 1.1 BACKGROUND, AIMS AND OBJECTIVES OF THE STUDY

Research exploring goal progress and goal commitment has identified that goal orientation i.e. goal progress and goal commitment can influence the willingness of individuals to get distracted from their focal goal (Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007). A goal progress prime makes it more likely that individuals will get distracted from their focal goal. On the contrary, a goal commitment prime makes it less likely that individuals will get distracted from their focal goal.

Goal progress has been defined as a sense of moving forward on a goal and reducing the discrepancy between the current state and the desired state (Carver & Scheier, 1998; Fishbach, Zhang & Koo, 2009). Goal commitment is defined as a sense that the goal is valuable and the expectancy of attainment is high (Fishbein & Ajzen, 1974; Lewin et al., 1944; Liberman & Forster, 2008).

The divergent effects of goal progress and goal commitment on goal adherence have been shown across different contexts e.g. academic, health and money. However, in spite of the strong evidence in the literature regarding the divergent effects of goal progress and goal commitment on individuals' actions, attempts to identify moderators of these effects are sparse. The aim of the current research is to address this gap. It is proposed that regulatory focus, level of goal concreteness, temporal distance of the focal goal from present and level of goal completion are potential moderators of the effects of goal progress and goal commitment.

Summarily, the gap in the goal progress/commitment research is identified as the following:

- ❖ There has been minimal research done to identify variables that can moderate the divergent effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent activities.

## 1.2 RESEARCH QUESTIONS

The primary research question guiding this study is:

- **What can possibly be some of the moderators influencing the divergent effects of goal progress and goal commitment on individual's willingness to engage in goal incongruent activities?**

The sub-questions supporting the primary questions are:

- Does regulatory focus moderate the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**
- Does level of concreteness of focal goal moderate the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**
- Does temporal distance of focal goal from present moderate the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**
- Can different stages of goal completion moderate the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**

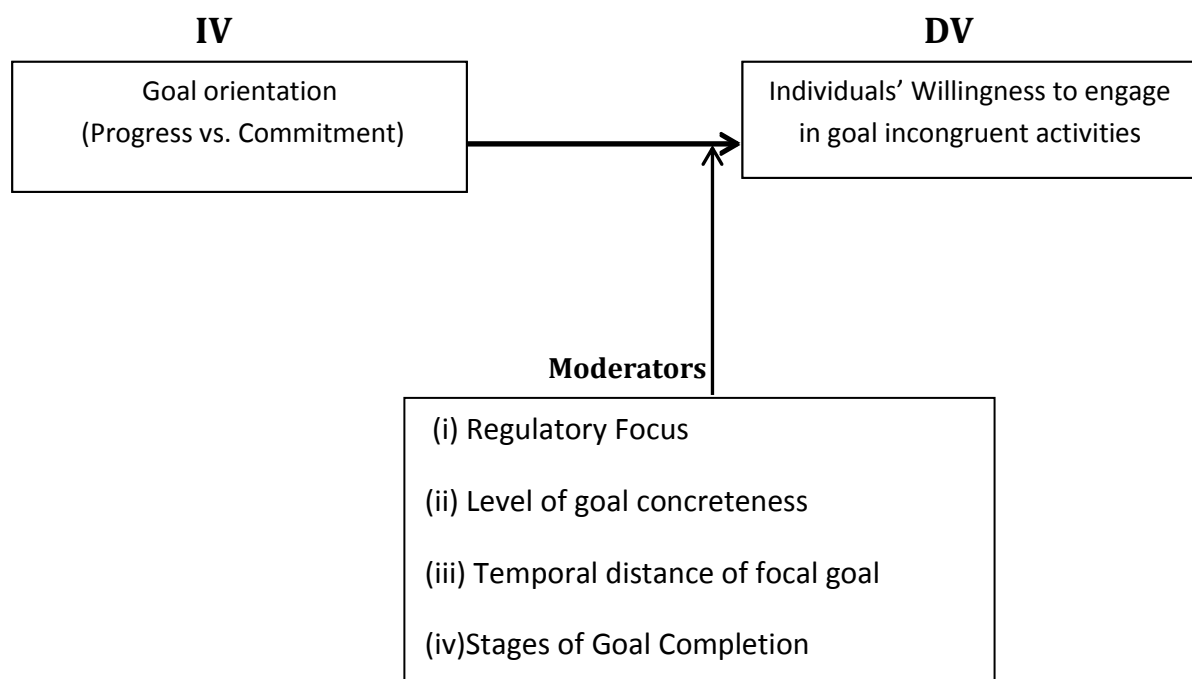
## 1.3 MAIN FINDINGS OF CURRENT RESEARCH

The main findings from the current research are:

- Regulatory focus *moderates* the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**
- Level of concreteness of focal goal *moderates* the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**
- Temporal distance of focal goal from present *moderates* the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**
- Different stages of goal completion *does not moderate* the divergent effects of goal progress and goal commitment on individuals' **willingness to engage in goal incongruent activities?**

#### 1.4 CONCEPTUAL FRAMEWORK

This research study engaged the key factors for study as follows in Figure 1:



**Figure 1: Conceptual framework**

## 1.5 CONTRIBUTION TO THE BODY OF KNOWLEDGE

This research study makes several theoretical contributions to the field of goal orientation. It explores the possible factors that can interact with progress and commitment and alter the magnitude of these effects on individuals' actions. Previous goal progress/commitment research (e.g. Fishbach & Dhār, 2005) has not placed adequate emphasis on understanding the boundaries of the effects of progress/ commitment and instead concentrates mostly on showing the effects albeit with different primes. It has now been established that a goal progress prime makes it more likely that individuals will engage in goal incongruent behaviour. It has now also been established that a goal commitment prime makes it less likely that individuals will engage in goal incongruent behaviour. However, what is the framework within which the effects of goal progress and goal commitment operate? The current study identifies a potential framework, as has been drawn in Figure 1.

In addition, this study collates extensive fields of research such as goal progress and goal commitment, level of goal concreteness, level of temporal construal and regulatory focus. Further, an inherent lack of clarity in the literature is with respect to whether the effects of goal progress and goal commitment are observed irrespective of the stages of goal completion. Literature has portrayed progress and commitment as priming issues. This suggests that, once primed with progress or commitment, the effects will be prominent irrespective of whether the individual has just started the work or whether they are near completion. However, this thinking needs to be tested. Thus another contribution of this research is to test whether the effects of progress/commitment can be observed irrespective of the different stages of goal completion. Specifically, if the level of progress is marked in clear terms as they near goal completion, will the effects remain same?

To summarize, the contribution of this research can be identified as follows:

- Possible moderators of the effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent activities are explored. Specifically, the moderators considered are:

- Regulatory Focus ( promotion focus vs. prevention Focus)
  - Level of goal concreteness (abstract goal vs. concrete goal).
  - Temporal distance of focal goal from present (near future vs. distant future).
  - Stages of goal completion (initial vs. latter).
- The balancing and highlighting literature (e.g. Huber, Goldsmith & Mogliner, 2008) which has been studied significantly in the marketing context (e.g. Dhar & Simonson, 1999; Drolet, 2002) has identified goal progress and goal commitment as one of the important contributors to the balancing/highlighting literature. By identifying boundaries of the effects of goal progress/commitment, the current research has actually improved the theoretical framework of the balancing/highlighting literature. Till now, the thinking was- progress leads to balancing and commitment leads to highlighting. The current research identifies the conditions under which progress will lead to balancing and commitment will lead to highlighting and therefore makes a significant contribution to the balancing/highlighting literature.

The marketing implications of this research can be identified as follows:

➤ Researchers have estimated that approximately half of the consumers in the market are relatively more promotion-focused while the other half are relatively more prevention-focused (Zhao, Hoeffler & Zauberman, 2007). Literature further says that consumers coming from collectivist countries (e.g. Japan) are mostly prevention-focused whereas those coming from individualistic countries (e.g. United States) are mostly promotion-focused. Promotion- and prevention-focused consumers exhibit different purchase behaviours e.g. differential levels of attention on hedonic and utilitarian attributes while making choice decisions, differential levels of self- control in the face of temptations etc. (e.g. Chitturi, Raghunathan & Mahajan, 2008, Dholakia et al., 2006 etc.). The current research compares the effects of goal progress and goal commitment for promotion and prevention focused individuals separately. This is the first study to actually test whether the theory of goal progress and goal commitment is applicable to two sets of individuals who are so different when it comes to purchasing products in the market place.

- In one of the seminal papers on goal progress and goal commitment viz. Zhang,

Fishbach & Dhar(2007), it is mentioned that marketers of vices or indulgent products ( e.g. tasty yet unhealthy food items, vacations etc.) should frame their marketing communications in terms of goal progress in order to be able to attract consumers to purchase their products. For example, talking about the amount of hard work that one is going to do in future in terms of progress towards one's desired achievements in life could be useful for attracting individuals to purchase a vacation package ( Zhang, Fishbach & Dhar, 2007). Also, talking about one's exercise plans in terms of progress towards being fit and healthy could attract individuals to purchase tasty food items like chocolate cakes (Zhang, Fishbach & Dhar, 2007).

Based on the findings of the current research it can be said that the suggestions of Zhang, Fishbach & Dhar (2007) to marketing communicators would not be sufficient to target consumers to purchase indulgent products. Merely highlighting marketing communications in terms of goal progress would not be sufficient to attract consumers. Instead, marketing communications highlighting the achievements of individuals in terms of goal progress would work most efficiently only in the following three conditions- goal progress/prevention-focused individuals, goal progress-concrete goals, goal progress-distant future goals.

The thesis consists of a series of chapters from here onwards. The literature review on goal progress and goal commitment is presented in Chapter 2. The moderators, viz., regulatory focus, level of goal concreteness, temporal distance of focal goal, stages of goal completion are discussed in Chapter 3. The hypotheses concerning the moderators are also discussed in Chapter 3. The experiments that are conducted to test the hypotheses are discussed in Chapter 4. The results obtained from the experiments are also discussed in Chapter 4. Finally, the discussion section along with the managerial implications of the thesis are presented in Chapter 5.



## 1.6 THESIS SUMMARY

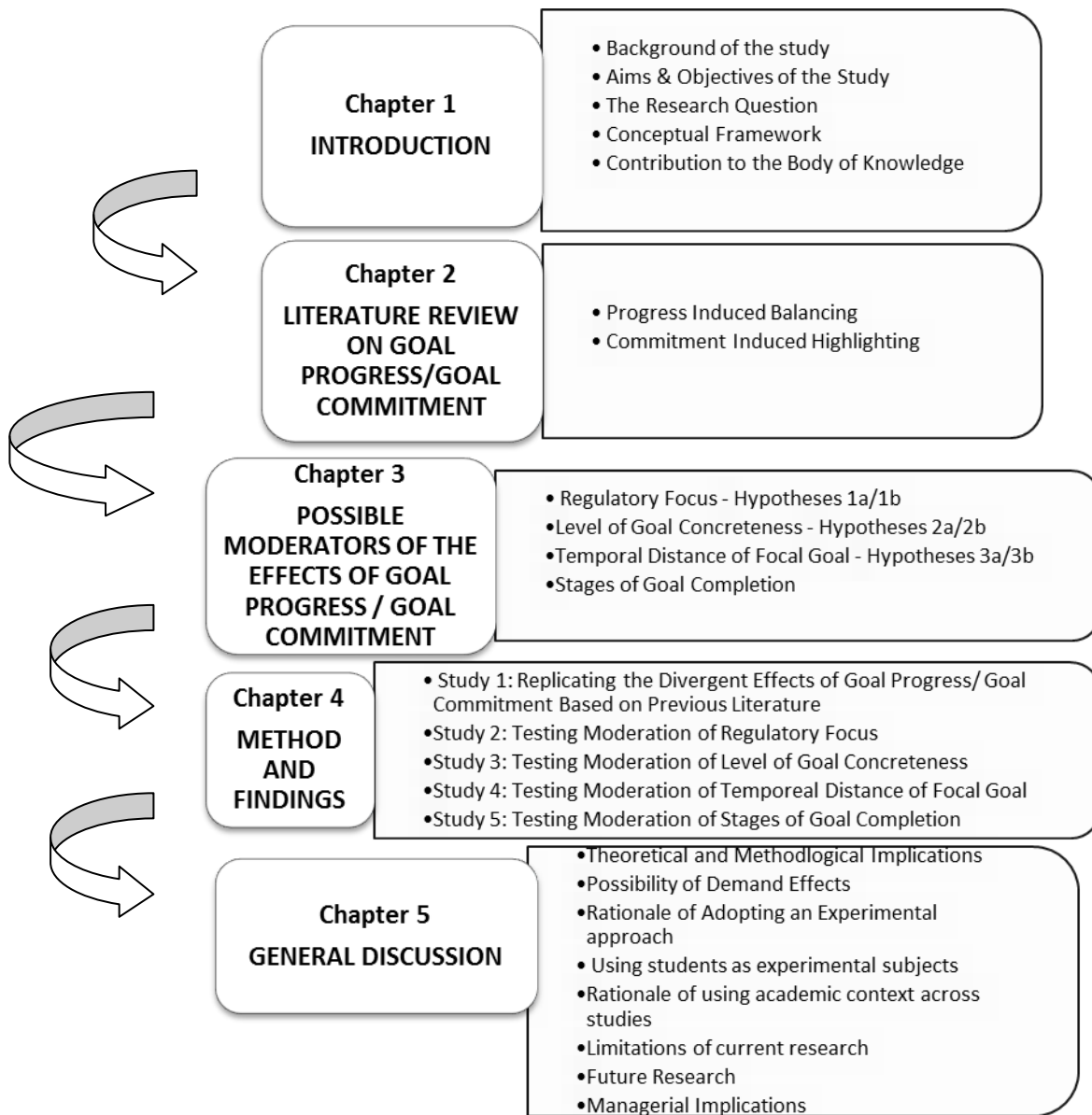


Figure 2: Thesis Summary

## **CHAPTER 2 – LITERATURE REVIEW ON GOAL PROGRESS AND GOAL COMMITMENT**

While it is evident that goal progress and goal commitment produce divergent effects in terms of willingness to engage in goal incongruent activities (e.g., Fishbach & Dhar, 2005), research to date has generally focused on showing these divergent effects. There has been little emphasis on identifying possible moderators or mediators for these effects.

In the current chapter, separate sections on the effects of goal progress and goal commitment on self-regulation are discussed. First, a discussion on the effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent activities. Next, the contribution of the goal progress/commitment literature to the balancing/highlighting literature is discussed. Finally, some limitations of the goal progress/commitment literature are highlighted and the ways in which the current research addresses those are discussed.

### **2.1 PROGRESS INDUCED BALANCING AND COMMITMENT INDUCED HIGHLIGHTING**

Individuals working to attain a focal goal can view their initial goal related actions in terms of progress towards their goal or in terms of commitment to their goal (Fishbach & Dhar 2005; Zhang, Fishbach & Dhar, 2007; Fishbach, Zhang & Koo, 2009).

The goal progress frame of mind sends the message that individuals have moved closer towards goal attainment. Individuals feel a sense of partial goal accomplishment upon being primed with goal progress (Fishbach, Zhang & Koo,

2009). For example, a weight watcher may set up a goal of losing a certain amount of weight, or a student may set up a goal to get a good grade in his exams. These goals may induce the weight watcher and the student to act accordingly, such as eating healthy food or studying hard. Pursuing these goal congruent actions would then send out the message that progress has been achieved and that the goal has been partially accomplished (Fishbach and Zhang, 2009). As a result, individuals may feel entitled to relax and may temporarily abandon the pursuit of their focal goal. They may instead resort to balancing acts by switching over to actions that are not consistent with the focal goal.

Alternatively, individuals working to attain a focal goal can view their initial goal related actions in terms of commitment towards their goal (Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007; Fishbach, Zhang & Koo, 2009). The commitment frame of mind sends the message that the goal is important and that the expectancy to accomplish the goal is high (Fishbein & Ajzen, 1974; Fishbach & Zhang, 2009; Fishbach, Zhang & Koo, 2009). Individuals primed with a commitment frame of mind are less concerned about their movement towards their end state or goal, or about their partial goal fulfilment (Fishbach & Zhang, 2009). Instead, the commitment frame of mind makes individuals concerned about whether the final or overall goal has actually been achieved (Fishbach, Dhar & Zhang, 2006).

Based on these assertions, interpreting initial goal related actions in terms of commitment toward the end state makes individuals feel an increased sense of the value of the goal and its expectancy of attainment. This prompts individuals to resort to highlighting by avoiding doing any activity that is inconsistent with their focal goal (Fishbach & Zhang, 2009). For example, the health goal of a weight watcher or the academic goal of a student might induce them to eat healthy food or study hard. Interpreting these goal congruent actions with a commitment frame of mind would then increase the perceived importance of the health goal for the

weight watcher and the academic goal for the student (Fishbach & Zhang, 2009). As a result, they would inhibit taking actions that are not consistent with their focal goal e.g. eating unhealthy food or having fun with friends (Fishbach & Dhar, 2005).

The divergent effects of progress and commitment have been studied together as parts of same research studies in goal related literature (e.g. Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007 etc.). For example, in one of the experiments in Fishbach & Dhar (2005), students were primed with the goal of doing well academically. The students were then asked to do an imagination task. Specifically, they were asked to imagine that they had studied hard for an entire day. The students were then primed either with goal progress or with goal commitment. The priming tasks were actually simple rating tasks. Specifically, students were asked to assess their level of academic goal progress or academic goal commitment whenever they studied hard for an entire day. Scales of 1 to 7 were used for this purpose. Higher numbers on the scale indicated higher perceptions of progress or commitment. Students were subsequently asked to state their likelihoods for engaging in some non-academic activities that evening, i.e., activities inconsistent with their academic goal (e.g. hanging out or socializing with friends).

It was observed that students primed with goal progress were more interested in engaging in goal incongruent activities as compared to students primed with goal commitment. The authors explained that inferences about academic goal progress encouraged to engage in something that was unrelated to their academic goal. On the contrary, inferences about academic goal commitment did not encourage students to engage in something that was unrelated to their academic goal.

## *CHAPTER 2- LITERATURE REVIEW ON GOAL PROGRESS AND GOAL COMMITMENT*

Results from the goal progress and goal commitment literature (e.g. Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007) also indicate that viewing future acts of goal pursuit in terms of goal progress or goal commitment has divergent effects on the willingness of individuals to engage in activities that are incongruent with their academic goals. For example, in one of the experiments in Zhang, Fishbach & Dhar (2007), gym goers were asked to interpret their workout plans in the future in terms of progress or commitment towards their goal of staying fit and healthy. In a subsequent choice task, the gym goers were provided with a choice set consisting of an unhealthy drink and a healthy drink. They were asked to make a choice between the two drinks. It was observed that the gym goers primed with goal progress preferred choosing the unhealthy drink over the healthy drink. On the contrary, gym goers primed with goal commitment preferred choosing the healthy drink over the unhealthy drink. The authors of Zhang, Fishbach & Dhar (2007) explained that viewing their future acts of goal pursuit in terms of goal progress made it easier for individuals to justify engaging in a goal incongruent behaviour in the present. On the other hand, viewing their future acts of goal pursuit in terms of goal commitment provided no such justification for individuals for engaging in a goal incongruent behaviour in the present.

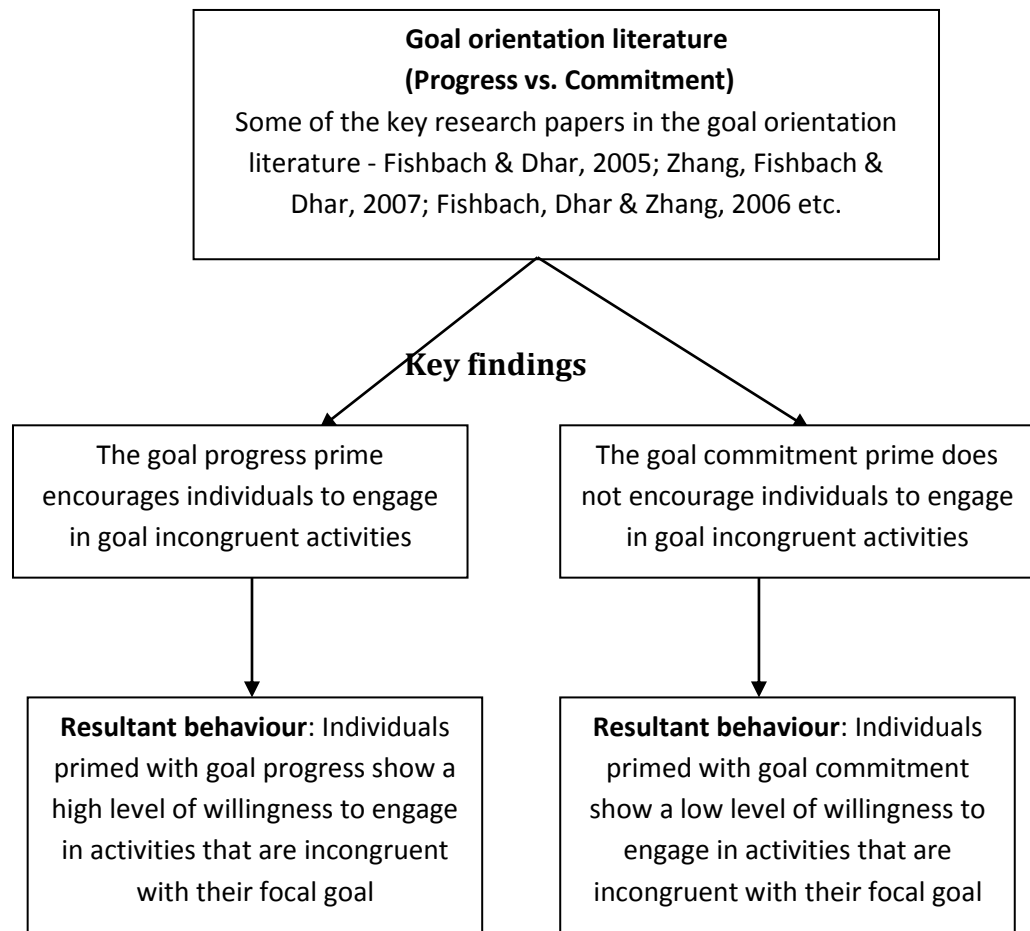
In a different experiment in Zhang, Fishbach & Dhar (2007), it was observed that individuals who viewed their plans of saving money in the future in terms of progress towards their saving goal subsequently showed a positive attitude towards spending money on leisure activities. Obverse results were observed for individuals primed with goal commitment i.e. individuals who viewed their plans of saving money in the future in terms of commitment towards their saving goal subsequently showed a negative attitude towards spending money on leisure activities. It was observed in the same experiment that students who viewed their study plans over the next few weeks in terms of academic goal progress showed a subsequent loss in enthusiasm for doing their studies during the current week (i.e., the week in which the experiment was conducted). However, students who viewed

their study plans over the next few weeks in terms of academic goal commitment still displayed enthusiasm for doing their studies during the current week

The work of Fishbach, Dhar & Zhang (2006) provides further support for the effectiveness of goal progress prime in promoting goal incongruent behaviour across different contexts (e.g. academic, health). For example, in one of the experiments in Fishbach, Dhar & Zhang (2006), a group of participants were primed with an academic goal. Another group of participants were primed with a health goal. Subsequently, participants interpreted a past or a future goal congruent activity (e.g. having studied for an exam for three hours or planning to work out in the gym for three hours in the future) in terms of progress towards their goals or in terms of commitment. Finally, participants were asked to respond to a question which actually was a measure of their goal persistence.

It was observed that participants primed with goal progress were less likely to persist with their goals by doing goal congruent activities (e.g. showing non-willingness to continue studying or showing non-willingness to drink something that is healthy but not that tasty) as compared to participants primed with goal commitment.

Based on the very consistent and repeatable findings of the goal progress literature it is clear that viewing goal congruent actions in terms of progress towards the focal goal causes a tendency to balance. On the contrary, viewing goal congruent actions in terms of commitment towards the focal goal causes a tendency to highlight. In other words, goal progress encourages individuals to disengage from their focal goal and engage in goal incongruent activities. However, goal commitment encourages individuals to stay focused on their desired goal and does not encourage them to engage in goal incongruent activities. A diagrammatic overview of the literature is presented in Figure 3.



**Figure 3: Diagrammatic overview of the goal progress/goal commitment literature**

## 2.2 CONTRIBUTION OF THE GOAL PROGRESS/GOAL COMMITMENT LITERATURE

A natural question that arises is: What was the contribution of the goal progress/ goal commitment studies towards the marketing/behavioural sciences literature? The contribution was actually significant. A lot of work was done by scientists studying the phenomenon of balancing/ highlighting.

What are actually the phenomena of balancing/highlighting? Dhar & Simonson (1999) puts this nicely. Say for example a consumer wants to experience

tasty food and at the same time he/she wishes to be healthy. Say this consumer on his visit to a restaurant orders a healthy but not that tasty entrée. Would this choice of a healthy but less tasty entrée have any effect on the type of dessert that he would choose to have? Based on Dhar & Simonson (1999), there could be three scenarios: First, each consumption episode could be considered independently in which case choice of the dessert would be made independently of the choice of the entrée that was made earlier. Second, the choice of a healthy but less tasty entrée could highlight a health goal in which case a healthy but less tasty dessert would be chosen. This is referred to as highlighting. Third, the choice of a healthy but less tasty entrée could increase the desire to take a compensatory approach during a subsequent consumption episode in which case a tasty but less healthy dessert item would be chosen. This is referred to as highlighting.

A classic example of highlighting is the foot-in-door policy as was demonstrated by Freedman & Fraser (1966). The authors initially requested target individuals to make initial commitments to some social cause (e.g. promoting safe driving) by requesting them to comply with a small request (e.g. signing a petition promoting safe driving). During a later date, the researchers went back to the same target individuals and asked them to comply with relatively larger requests consistent with their earlier commitments (e.g. displaying a big signboard supporting safe driving). It was observed that the targets complied with the larger requests. The authors asserted that having associated with the cause of promoting safe driving initially and having complied with the smaller requests induced targets to comply with the larger requests subsequently in order to be consistent with their commitments.

In a similar vein, Harris (1972) displayed the foot-in- the door policy by showing that initial compliance to altruistic acts (e.g. helping someone to find an address) subsequently lead individuals to act altruistically (e.g. giving a dime to the person whom he had helped finding the address). The authors implicated that



one's affiliation with social norms made salient by the initial act of altruism drove subsequent behaviors that are consistent with the same norms.

Dhar & Simonson (1999) find evidence of highlighting in the context of memorable events. For example, the authors show that if an individual has purchased an expensive ticket for a premium seat in a baseball game, he would more likely to select a premium beer over a regular beer while watching the baseball game. The authors of Dhar & Simonson (1999) suggest that "peak goal fulfillment has a special status that consumers try to achieve from time to time, and they are willing to pay the price for such memorable experiences" (p. 40).

Moving on from the examples of research related to "highlighting", some interesting research has also been done in the context of "balancing". For example, research in the context of moral licensing (Monin & Miller, 2001) shows that individuals show lesser tendencies to perform an egalitarian behaviour if they are given the opportunity to perform an egalitarian act as compared to if they are not given the opportunity to perform an egalitarian act. To illustrate more, in one of the studies, male participants who were provided (versus some were not provided) with the opportunity to disagree with five gender biased statements, subsequently displayed a high degree of gender biasedness while stating their preferences for a job candidate. Apparently, the participants construed that the show of gender unbiasedness in an initial activity had established their credentials as egalitarian individuals. This made them feel that they were liberated from showing egalitarianism later on. This liberation from their egalitarian goal induced them to perform non- egalitarian actions while performing subsequent activities. The result of the perceived progress was a pattern of balancing between being egalitarian and showing biasedness (Fishbach and Zhang, 2009). The authors found similar results in two other studies all of which involved selecting job candidates in successive tasks.

Drolet (2002) postulated the “Inherent Rule Variability” theorem while discussing balancing. According to Inherent Rule Variability, consumers derive utility from variation and balance of their decision strategies. Drolet (2002) asked individuals to either choose a private label or a brand name from amongst items in a product category which would induce them to choose the brand name over a private label or from a product category which would induce them to choose a private label over a brand name. Subsequently, she asked participants in either of the two conditions to again make choices from between brand names and private labels for different product categories but which should again induce them to choose a brand name over a private label or vice versa. She found that individuals who had chosen a brand name in the initial choice task opted to choose the private label in the subsequent choice task. Similarly, preference reversals were observed for the participants who had initially chosen the private label.

Results from Kivetz & Simonson (2002) show that after putting in a significant amount of effort in a rewards program associated with an utilitarian product ( e.g., a car rental service) consumers feel entitled to purchase a luxurious product ( e.g. a pampering Swedish or Sports massage) subsequently. For example, in one of their experiments, the experimental subjects were shown two scenarios. Specifically, the subjects were told that they were eligible to choose between a free Swedish / Sports massage or an equivalent amount of reward points for grocery purchase if they hired a car from a car rental company 10 times ( vs. 20 times). It was observed that the percentage of consumers choosing the free cosmetic massage was higher when the requirement for earning the free massage was higher. The authors of Kivetz & Simonson (2002) explain that a higher effort associated with the purchase of an utilitarian product reduces the guilt associated with choosing a luxury product subsequently.

Based on the discussion of the literature related to highlighting and balancing, it can be concluded that factors like “Altruism”, “Positive Self

perception” and “Peak Goal Fulfilment” are some of the factors to which the findings of the literature related to “highlighting” can be attributed. On the other hand, factors like “Inherent Rule Variability”, “Guilt Reduction”, “Moral Licensing” are some of the factors to which the findings of the literature related to “balancing” can be attributed.

The goal progress/goal commitment literature takes the work related to balancing/highlighting literature forward. Infact, just like “Altruism”, “Positive Self Perception” and “Peak Goal Fulfilment”, “Goal commitment” is a factor driving the findings of the literature related to “highlighting”. On the other hand, just like “Inherent Rule Variability”, “Guilt Reduction” and “Moral Licensing”, “Goal progress” is a factor to which the findings of the literature related to “balancing” can be attributed. A similar overview of the literature on balancing and highlighting and its connection with goal progress/commitment can be found in Huber, Goldsmith & Mogliner (2008).

A diagrammatic overview of the literature on balancing/highlighting (similar to Huber, Goldsmith & Mogliner, 2008) is presented in Figure 4.

<b>Highlighting</b>	<b>Balancing</b>
Altruism(Freedman & Fraser, 1966)	Inherent Rule Variability (Drolet, 2002)
Positive Self Perception ( Harris, 1972)	Guilt Reduction (Kivetz & Simonson, 2002)
Peak Goal Fulfillment ( Dhar & Simonson, 1999)	Moral Licensing (Monin & Miller, 2001)
Goal Commitment (Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007 etc.)	Goal Progress (Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007 etc.)

**Figure 4: Factors contributing to the balancing / highlighting phenomena**

To summarize this section:

- Findings from the literature on goal progress and goal commitment (e.g. Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007; Fishbach, Zhang & Koo, 2009) indicate that viewing initial or future acts of goal congruence in terms of goal progress makes it more likely that individuals would indulge in goal incongruent activities. On the contrary, viewing initial or future acts of goal congruence in terms of goal commitment makes it less likely that individuals would indulge in goal incongruent activities. The findings of the literature on goal progress and goal commitment are consistent and have been repeated across domains (e.g. academic, health, money).
- The literature on goal progress and goal commitment has a significant contribution to the balancing / highlighting literature.
- It is still unclear what are some of the potential moderators of the effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent behaviour.

### **2.3 SOME METHODOLOGICAL ISSUES WITH THE GOAL PROGRESS/ GOAL COMMITMENT LITERATURE**

Further, before moving onto the next section, some methodological issues regarding the progress and commitment literature should be highlighted:

(i) The seminal papers on goal progress and goal commitment ( e.g. Fishbach& Dhar, 2005) have not provided their full experimental stimulus in their articles. For example, in Fishbach & Dhar (2005), Study 3 tested the divergent effects of goal progress and goal commitment on the willingness of individuals to engage in goal incongruent activities. There were three contexts used in the study viz.

academic, health, money. However, some details about the experimental stimulus are provided only for the academic context. This makes it difficult to guess the right procedure that should be adopted by researchers aiming to replicate and build upon the work of Fishbach and Dhar (2005) in a health domain or in a money domain.

(ii) The seminal papers on goal progress and goal commitment (e.g. Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007) do not have proper manipulation checks for the goal progress and goal commitment primes. This is a glaring omission and can be considered as a serious methodological flaw in the original papers studying goal progress and goal commitment.

In the current research, these limitations have been addressed.

- The experimental instruments have been provided in detail in the appendix section.
- Proper manipulation checks for goal progress and goal commitment primes have been used in all the studies in the current research.

In the following section, the possible moderators which can qualify the effects of goal progress and goal commitment are explored.

## **CHAPTER 3 – POSSIBLE MODERATORS OF THE EFFECTS OF GOAL PROGRESS AND GOAL COMMITMENT**

### **3.1 REGULATORY FOCUS AS A MODERATOR OF THE EFFECTS OF GOAL PROGRESS / GOAL COMMITMENT**

According to regulatory focus theory (Crowe & Higgins, 1997; Higgins, 1997), self-regulation involves two separate systems called promotion and prevention. Promotion-focus is associated with nurturance needs and goals related to aspirations and accomplishments. Prevention-focus on the other hand is associated with security needs and goals related to safety and responsibilities. While pursuing an activity or a goal, promotion-focus encourages a greater sensitivity to positive outcomes or gains and a lesser sensitivity to negative outcomes or losses. Prevention-focus does the opposite: it encourages a greater sensitivity to negative outcomes or losses and a lesser sensitivity to positive outcomes or gains (Higgins, 2002; Zhou & Pham, 2004). Although both systems are assumed to coexist in an individual, one and the other may be temporarily or chronically more accessible than the other (Lockwood, Jordan & Kunda, 2002).

An inherent assumption of regulatory focus theory is that fundamentally different needs, such as the distinct survival needs of nurturance (e.g., nourishment) and security (e.g., protection) can imbue different types of regulatory focus in individuals (Higgins, 2002). Different types of parental guidance, for example, can highlight either nurturance or security needs. Nurturance can be highlighted for example by encouraging one to meet desired end states and by withdrawing encouragement when one is not able to meet the desired end states (Higgins, 1997; Higgins, 2002). Security can be highlighted for example by protecting one in order to help him to meet his desired end states and by criticizing the individual when desired end states are not met (Higgins, 1997; Higgins, 2002). These different social regulatory styles inculcate different types of regulatory focus in individuals. The nurturance form of social regulation imbues a promotion-focus, in which self-regulation is about focusing on the presence or absence of positive outcomes and caring about one's hopes,

aspirations and achievements. The security form of social regulation imbues prevention-focus, in which self-regulation is about focusing on the presence or absence of negative outcomes and caring about one's duties, thoughts and obligations (Higgins, 1997; Higgins, 2002).

Momentary situations are also capable of temporarily priming individuals with either promotion-focus or prevention-focus (Higgins, 2002). Results from Zhou & Pham (2004) indicate that financial products like individual stocks in trading accounts are categorized in the long term memory of individuals as promotion-oriented products or, in other words products, which can help an investor to maximize his gains. Exposure to individual stocks in trading accounts thus activates a promotion-focus in individuals. This in turn causes a greater sensitivity to gains and a lesser sensitivity to losses while evaluating this product. On the other hand, results from Zhou & Pham (2004) also indicate that financial products like mutual funds in retirement accounts are mentally categorized in the long term memory of individuals as prevention-oriented products, i.e., products which can give assurance to an individual that he would be able to minimize any loss by investing in such a product. Exposure to mutual funds thus activates a prevention-focus in individuals. This in turn causes a greater sensitivity to losses and a lesser sensitivity to gains while evaluating the product.

Summarily thus, different types of regulatory focus cause differences in behaviour shown by individuals in different situations and regulatory focus can therefore be considered as a causal phenomenon.

A related consequence of regulatory focus is that promotion-focus and prevention-focus induce different levels of resistance to distractions while pursuing a task and which in turn results in different levels of task performances in the presence of distractions.

Results from Dholakia et al. (2006) indicate that promotion-focused individuals are more capable of resisting distractions as compared to prevention-focused individuals. The authors observed this pattern of results across multiple experiments.

For example, the authors of Dholakia et al. (2006) conducted one of their experiments with dieters as experimental participants. Dieters are expected to adhere to health goals and avoid eating unhealthy food items. The authors gave a list of food items to dieters- some healthy and some unhealthy. The unhealthy options were items like cheese cakes, chocolates, ice creams etc. whereas the healthy options were items like fruits, salads, vegetables etc. The authors observed that promotion-focused dieters displayed higher levels of self-control and showed lower levels of behavioural intentions to eat the unhealthy food options as compared to prevention-focused dieters. Infact, the number of unhealthy food options that were selected for consumption by the promotion-focused dieters was also significantly lower as compared to the corresponding number of unhealthy food options selected by prevention-focused dieters.

In one other experiment, participants were asked to imagine themselves as a student who is overweight. Subsequently, the participants were asked to imagine a scenario in which the student has had fruit salad for breakfast and is then out for lunch in a restaurant after a busy and productive morning session at work. In the restaurant, the student finds a mouth-watery fatty dessert on display. Subsequently, the authors measured the participants' self-control levels in the situation that has been just described. The authors also studied the effect of the regulatory focus of the participants on their self-control levels. It was observed that the self-control levels of the promotion-focused participants in the face of the unhealthy dessert was higher as compared to the corresponding self-control levels of the prevention-focused participants.

The authors of Dholakia et al. (2006) have used the approach and avoidance theory from the regulatory focus literature (e.g. Higgins, 2002) to explain the findings that they have obtained across their experiments in that article.



Regulatory focus literature indicates that promotion-focused individuals use approach strategies to achieve their goal (e.g. strategies associated with eagerness, achievement and gains) (e.g. Crowe & Higgins, 1997, Freitas, Liberman & Higgins, 2002).

In the experiments of Dholakia et al. (2006), the individuals irrespective of their regulatory focus were all trying to exert self-control. The promotion-focused individuals while trying to exert self-control used approach means and framed their self-control strategies in terms of goal achievement whereas the prevention-focused individuals while trying to exert self-control used avoidance means and framed their self-control strategies in terms of temptation avoidance. So, for the promotion-focused individuals, the focus was on how to achieve the self-control goal and not on the ways and means to avoid the temptation. For the prevention-focused individuals, the focus was on the ways and means to avoid the temptation rather than solely focusing on how to achieve the self-control goal (Dholakia et al., 2006).

The authors in Dholakia et al. (2006) suggested that it is more difficult to avoid a temptation rather than to simply think about achieving a self-control goal. In case of prevention-focused dieters, the focal point was the tempting stimulus and the avoidance strategies were designed around this temptation. The thinking was that there is a temptation and one must avoid it, so it is necessary to do everything in order to avoid the temptation. So, the tempting item was always the focus for the prevention-focused dieters with an eye always on how to avoid it.

In the case of promotion-focused individuals, temptation avoidance was not the main point of focus. Rather, the need to achieve one's self-control goal took centre stage. The self-control strategies were designed with respect to this self-control goal. In other words, the focus was not on how one should avoid a temptation but rather on how one should achieve the self-control goal.

It can be inferred from Dholakia et al. (2006) that for the promotion-focused dieters, the self-control goal was more salient as compared to the temptation. On the contrary, for the prevention-focused dieters, in an attempt to avoid the temptation and with the temptation being the main point of focus, the temptation ended up being more salient as compared to the self-control goal. Thus, in the end, promotion-focused dieters were able to show more restraint as compared to the prevention-focused dieters when faced with a tempting food item like a chocolate cake.

The authors of Dholakia et al. (2006) collected some process level evidences for their explanation behind their findings. In one of their studies (Study 4), they did some thought coding analysis and observed that desire to achieve one's self control goal was indeed something that was highly salient in the minds of the promotion –focused dieters in the face of a tempting food item like a cheesecake. On the contrary, the authors observed that prevention-focused dieters were indeed thinking about avoiding eating a tempting food item like a cheesecake when faced with it. Infact, in the same study, the authors also observed that differences in the self- control strategies ( viz. approach and avoidance) used by promotion- and prevention-focused individuals in order to control temptations mediates the effects of regulatory focus on one's ability to resist temptations.

In summary, based on Dholakia et al. (2006), it can be deduced that while pursuing a goal, promotion-focused individuals are more likely to deviate from their goals in the presence of distractions as compared to prevention- focused individuals.

Support for this result also comes from articles like Roney, Higgins & Shah (1995); Crowe & Higgins (1997); Higgins & Spiegel (2004). For example, results from Roney, Higgins & Shah (1995) indicate that promotion-focused individuals show greater levels of persistence on difficult tasks as compared to prevention-focused individuals. In this article, participants were given an anagram task to solve. There were solvable as well as unsolvable anagrams in the task that was given to the participants. It was observed that the promotion-focused participants were less likely to call it quits while solving the unsolvable anagrams as compared to the prevention-focused participants

(Crowe & Higgins, 1997). This result clearly shows that promotion-focused individuals have greater levels of dedication to their task at hand as compared to prevention-focused individuals.

Results from Crowe & Higgins (1997) indicate that promotion-focused individuals have greater abilities to recuperate from failures as compared to prevention-focused individuals. For example, in one of the experiments in Crowe & Higgins (1997), participants were given an unsolvable anagram task followed by some solvable anagram tasks and were then given an embedded figure problem which required participants to identify a hidden figure from the information that was given to them. The embedded figure problem was also a hard one to solve. It was observed that the promotion-focused participants after having failed to solve the unsolvable anagram problem did well in terms of solving the subsequent anagram problems and in fact also showed a high level of persistence during the subsequent embedded figures problem. On the contrary, the prevention-focused participants after having tasted failure in the initial unsolvable anagram problem were eager to quit the subsequent tasks soon after they started doing those in order to avoid any further failure. This result once again shows that promotion-focused individuals have greater levels of dedication to their task at hand as compared to prevention-focused individuals.

It can thus be said that while pursuing a goal, promotion-focused individuals are less likely to deviate from it as compared to prevention-focused individuals.

As has been already discussed, individuals primed with goal progress are more likely to perform goal incongruent behaviour as compared to individuals primed with goal commitment (e.g. Fishbach & Dhar, 2005). However, since a promotion-focus style of thinking is more efficient in resisting distractions to task completion as compared to a prevention-focus style of thinking and considering that individuals can be naturally oriented towards being promotion- or prevention-focused, it is possible that a goal progress prime would not actually be more effective in promoting goal incongruent

behaviour as compared to a goal commitment prime when the individuals concerned have a promotion-focused style of thinking. The goal progress prime would actually be more effective in promoting goal incongruent behavior as compared to a goal commitment prime only when the individuals concerned have a prevention-focused style of thinking. Therefore, it can be suggested that:

The goal progress prime would lead to higher levels of goal incongruent behaviour as compared to the goal commitment prime when the individuals concerned have a prevention-focused style of thinking-**H1a**.

The goal progress prime would not lead to higher levels of goal incongruent behaviour as compared to the goal commitment prime when the individuals concerned have a promotion-focused style of thinking-**H1b**.

In summary, regulatory focus of individuals is being proposed as a potential moderator of the effects of goal progress and goal commitment on individual's willingness to engage in goal incongruent behaviour.

### **3.2 LEVEL OF CONCRETENESS OF FOCAL GOAL AS A MODERATOR OF THE EFFECTS OF PROGRESS/COMMITMENT**

Interestingly, existing research studying the divergent effects of goal progress/goal commitment on an individual's willingness to engage in behaviour consistent or inconsistent with their focal goal (e.g. Fishbach & Dhar, 2005) has not taken into account the level of abstraction of focal goals as a construct while studying the effects. The level of difficulty in processing abstract concepts such as "freedom", "hope", and "happiness" is greater than the corresponding difficulty level in processing concrete concepts such as "table", "tree", "hairpins" (Wiemer-Hastings & Xu, 2005). Abstract concepts are referred to as items without any directly perceivable features

whereas concrete concepts are referred to as items with direct perceivable features (Xu, 2010). The differences in processing abstract and concrete concepts are referred to as concreteness effects, and range across different tasks including studies of learning, memory retrieval, comprehension etc. (Wiemer-Hastings & Xu, 2005; Xu, 2010).

Concreteness effects often are explained in terms of Paivio's (1971, 1986) dual-coding model or by a context availability hypothesis (Schwanenflugel, Akin & Luh, 1992). For example, Paivio and his fellow researchers did studies on how abstract words and concrete words are processed and formulated the dual coding theory to explain differences in the processing of abstract vs concrete words.

It was postulated that the processing advantage of concrete words over abstract words can be attributed to sensory information (Paivio, 1971, 1986; Schwanenflugel & Akin, 1994). Based on the dual-coding theory, there are two representative systems that are functionally independent as well as interdependent: a verbal system (the “logogen” system) and an imaginal system (the “imagen” system). The “logogen” system processes linguistic information. The “imagen” system processes nonverbal information. These representations occur in memory depending on the level of concreteness of the stimulus. Paivio's dual-coding theory explains concreteness effects by postulating that both concrete and abstract words are connected to the “logogen” system, but only concrete words are associated with the “imagen” system. When a concrete word is being processed, both the “logogen” and the “imagen” systems start functioning, and an additive effect occurs, whereas in the case of abstract words, only the “logogen” system functions thereby resulting in an advantage for concrete words over abstract words in terms of processing of the same. Therefore, it is easier to recollect concrete words as compared to abstract words as the image provides an extra avenue for processing concrete words.

A second explanation for concreteness effects is a context availability hypothesis, which emphasizes that it is easier to think about a context for a concrete word as

compared to that for an abstract word (Schwanenflugel, Akin & Luh, 1992). For example, it may be easier to think of a context for the word “bed” as compared to thinking about a context for the word “freedom.” Based on this hypothesis, concreteness effects result from a difference in the availability of contextual information in memory. The contextual information needs to be construed based on prior knowledge or based on information available in the stimulus being processed. Therefore, when abstract and concrete words are being processed, it is more difficult to recollect contextual information for abstract words as compared to that for concrete words, resulting in higher levels of retrieval for concrete words as compared to that for abstract words.

Extending these findings to the present thesis, it is predicted that an abstract goal (e.g. learning) is more difficult to process than a concrete goal (e.g. preparing for the mid-term examination in a particular subject which requires reading the first six chapters of the textbook). Thus, the effects of goal progress and goal commitment on an individual’s willingness to perform goal incongruent behaviour may not be equivalent when the goal is abstract versus when the goal is concrete.

Based on studies like Fishbach & Zhang (2009), it can be construed that goal progress is a sense of discrepancy reduction between one’s current state and the end point with respect to goal attainment. Thus, it can be assumed that, if one’s end point is defined clearly, the perceived sense of goal progress should be high. On the contrary, if the end point is not defined clearly, the perceived sense of goal progress should be low.

For an open ended or abstract goal like “learning”, the end point is not clear and is difficult to imagine. For a closed ended or concrete goal like “preparing for the mid-term exam in a particular subject which requires reading the first six chapters of the textbook”, the end point is clear and is easier to imagine. Thus, it can be proposed that the perceived sense of discrepancy reduction resulting from a goal progress prime should be greater when a goal is concrete as compared to when the goal is abstract.

For example, when students who have studied hard during the day are asked to reflect upon their day's work in terms of progress towards their goal attainment, it will be difficult to perceive goal progress for the abstract goal of "learning" as compared to the concrete goal of "reading six textbook chapters for an exam." When the goal is abstract, students will be more uncertain about their level of progress ("how much have I learnt today?") as compared to when the goal is concrete ("how many chapters did I read today?"). Thus, the students having the concrete goal of reading the first six chapters from the text book will find it easier to perceive progress as compared to students having the abstract goal of learning.

Thus, on being primed with goal progress, as compared to students who have the abstract goal of "learning", students who have the concrete goal of "exam preparation" will be more willing to do something which is inconsistent with their goal, e.g. partying with friends in the evening, after having studied hard for a day.

To summarize, based on the goal progress and goal commitment literature (e.g. Fishbach & Dhar, 2005), it can be construed that for the goal progress prime to work effectively in terms of inducing individuals to perform goal incongruent behaviour, individuals need to perceive clearly that they have made progress towards their goal. In the current research, it is argued that individuals are clearly able to perceive progress only when the goal progress prime is administered for a concrete goal. However, individuals are not clearly able to perceive progress when the goal progress prime is administered for an abstract goal. Thus, the effectiveness of the goal progress prime reduces when the goal is abstract as compared to when the goal is concrete. Therefore, it is predicted that:

**H2a:** The goal progress manipulation would lead to lower levels of goal incongruent activities when administered for an abstract goal as compared to when it is applied for a concrete goal.

Based on studies like Fishbach & Zhang (2009), it can be construed that goal commitment is not about moving closer towards the end point that one intends to achieve. Initial goal congruent actions when viewed in terms of goal commitment provide an increased sense regarding expectancy and importance of goal attainment. Thus, when students who have studied hard during the day are asked to reflect upon their day's work in terms of goal commitment, then irrespective of whether the goal is abstract (e.g. "learning") or concrete (e.g. "preparing for the mid-term exam in a particular subject which requires reading the first six chapters of the textbook"), the commitment prime should provide an increased sense regarding the expectancy of goal attainment and the importance of goal attainment.

Thus, on being primed with goal commitment, irrespective of whether the goal is an abstract goal of "learning" or a concrete goal of "preparing for the exam", students should subsequently be less likely to do any goal inconsistent activity e.g. partying with friends in the evening, after having studied hard for a day. Therefore, it is predicted that:

**H2b:** The goal commitment prime would lead to equal levels of goal incongruent activities irrespective of whether the goal being pursued is abstract or concrete.

### **3.3 TEMPORAL DISTANCE OF FOCAL GOAL AS A MODERATOR OF THE EFFECTS OF PROGRESS/COMMITMENT**

Research on temporal framing of information has shown that when events are temporally distant, individuals tend to view the events in terms of the abstract features of the event (high level construal). When events are temporally proximal, individuals tend to view the events in terms of concrete features of the event (low level construal) (Forster, Friedman & Liberman, 2004; Spassova & Lee, 2013). For example, an individual planning to participate in a conference which is a year from now might think about it in terms of abstract thoughts (e.g. "acquiring knowledge about new research") whereas the same individual when planning to participate in a conference which is a



week from now might think about it in terms of concrete thoughts (e.g. “ironing one’s pants.”)

Results from one of the experiments of Liberman & Trope (1998) indicate that the act of reading a science fiction book can be viewed in terms of abstract thoughts like “broadening one’s horizon” if the activity is construed to be happening one year from now. The same activity can be viewed in terms of concrete thoughts like “flipping the pages” if it was to happen tomorrow.

Infact, temporal distance of an event can also determine the level of desirability and feasibility considerations of individuals. Increase in temporal distance leads to an increase in the desirability related thoughts of individuals and a decrease in their feasibility related thoughts. Thus, individuals prefer desirability related options for the distant future and feasibility related options for near future (Zhao, Hoeffler & Zauberman, 2007). For example, Liberman & Trope (1998) find that when students are asked to choose a distant-future research assignment (submission due after nine weeks), students place more importance on how interesting the project is and neglect the amount of time and effort required to complete the project. However, when students are asked to choose a research assignment that is due in the near future (submission due after one week), students place more importance on the amount of time and effort required to complete the project rather than focusing on how interesting the project is.

Thus, it can be inferred that, while deliberating on events in the distant future, individuals place less importance on the obstacles that may come in their path. When, for example, a project submission is due at the end of the semester, students may choose a difficult project over an easy one with the thinking that there is enough time to complete a difficult project and those other assignments and exams can be handled if time management is properly done. On the contrary, while deliberating on events in the near future, individuals place more importance on the obstacles that may come in their path. When, for example, a new project is assigned to students two weeks before the

end of the semester, thoughts about multiple assignment submissions and exam preparation may deter students to choose any difficult project.

In line with this thinking, the work of Gilovich, Kerr & Medec (1993) indicates that individuals are overoptimistic or more confident about their success in a task when the task is scheduled for the distant future as compared to when the task is scheduled for the near future. For example, in one of their experiments, the authors found that students who were informed that they would be performing several tasks (e.g. anagram tasks, memory recall tasks) in the distant future (end of the semester) were more confident about their success in the tasks and listed more thoughts related to success as compared to students who were informed that they would be performing the tasks in the near future (immediately).

Similarly, the work of Eyal et al. (2004) indicates that when an activity is scheduled for the distant future, the advantages of performing the activity are more salient than the corresponding disadvantages. When an activity is scheduled for the near future, the disadvantages of performing the activity are more salient than the corresponding advantages. The authors of Eyal et al. (2004) use the example of an overseas trip to explain this point. The authors explain that when a trip is still a distant future event, individuals think primarily about the advantages of the trip (e.g. visiting interesting places) as compared to the disadvantages (e.g. an inconvenient situation arising in an unknown place). However, when the trip is a near future event, individuals think more about the disadvantages of the trip as compared to the advantages.

Therefore, it can be construed that when a goal is viewed as a distant future event, individuals will place less importance on the possible obstacles to goal attainment. In such cases, it will be more likely for individuals in a goal progress mode to take breaks from their focal goal and do something goal incongruent.

For example, undergraduate students working on a goal of doing well in a project in a particular course may view their goal as a distant future goal when the due date for project submission is still some weeks away. In such cases, students will be overoptimistic about their goal achievement. They will therefore place less importance on possible obstacles to their goal attainment (e.g. the possibility of falling sick, meeting other project deadlines etc.). Therefore, goal congruent actions (e.g. having spent some time working on the project) when viewed in terms of goal progress will make it more likely for the students to do something goal incongruent (e.g. hanging out with friends).

On the contrary, when a goal is viewed as a near future event, individuals will place more importance on the possible obstacles to goal attainment. In such cases, it is less likely for individuals in a goal progress mode to take breaks from their focal goal and do something goal incongruent.

For example, undergraduate students working on a goal of doing well in a project in a particular course may view their goal as a near future goal when the due date for project submission is just one week away. In such cases, students are less likely to be overoptimistic about their goal achievement. Instead, they will place more importance on possible obstacles to their goal attainment (e.g. the possibility of falling sick, meeting other project deadlines etc.). Therefore, goal congruent actions (e.g. having spent some time working on the project) even when viewed in terms of goal progress will make it less likely for the students to do something goal incongruent (e.g. hanging out with friends).

Therefore, it is predicted that:

**H3a:** The goal progress prime would lead to lower levels of goal incongruent activities when administered for a near future goal as compared to when it is applied for a distant future goal.

Irrespective of whether a goal is viewed as a distant future or a near future event, a goal commitment prime should indicate to individuals that the goal is important and the expectancy of attainment is high. Thus, individuals would be less likely to do something goal incongruent when primed with goal commitment, irrespective of whether the goal is in the distant future or in the near future.

Therefore, it is predicted that:

**H3b:** The goal commitment prime would lead to equal levels of goal incongruent activities irrespective of whether the goal being pursued is in the near future or in the distant future.

### **3.4 STAGES OF GOAL COMPLETION AS A MODERATOR OF THE EFFECTS OF PROGRESS / COMMITMENT**

Interestingly, existing research studying the divergent effects of goal progress/goal commitment on an individual's tendency to perform behaviour consistent or inconsistent with his/her focal goal (e.g. Fishbach & Dhar, 2005) has not been able to solve an important question: Are goal progress and goal commitment priming issues or are these issues related to the actual level of goal completion?

Results from studies like Fishbach & Dhar (2005); Zhang, Fishbach & Dhar (2007) clearly suggest that goal progress and goal commitment are priming issues. For example, in one of the experiments (Experiment 3) in Fishbach & Dhar (2005), the authors had simply asked students to view a hard day of studies in terms of progress or commitment towards their goal of doing well academically. The students were subsequently asked to indicate their likelihood of doing some goal incongruent activities that evening (e.g. partying with friends in the evening). Results of the experiment indicated that induction of goal progress resulted in a higher incidence of

behaviour incongruent with their academic goal whereas induction of goal commitment resulted in a lower incidence of doing something goal incongruent. Notable is the fact that the amount of goal completion achieved was not manipulated in this experiment.

Similarly, in one of the experiments (Study 1) in Zhang, Fishbach & Dhar (2007), the authors instructed a group of gym goers to think about their future workout sessions in terms of progress or commitment towards their health goal. Subsequently, the gym goers were provided with a choice set consisting of an unhealthy drink and a healthy drink and were asked to make a choice between the two drinks. It was observed that the gym goers primed with goal progress showed greater preference for the unhealthy drink whereas the obverse behaviour was observed for gym goers primed with goal commitment.

The findings and the method of goal priming of Fishbach & Dhar (2005); Zhang, Fishbach & Dhar (2007) clearly suggests that just inducing a sense of progress or a sense of commitment in individuals promotes or lessens individuals' motivations to act in goal incongruent manner. The divergent effects of goal progress and goal commitment should be observed irrespective of the actual amount of goal completion as goal completion was never manipulated in these studies. The implication is that goal progress and goal commitment are priming issues and that the effects of progress and commitment should hold irrespective of how much goal completion individuals have achieved.

Thus, if an individual is pursuing a goal and he/she does some work that is congruent with the goal (e.g. studying hard to attain an academic goal or doing exercise in the gym to attain one's health goal), then the goal congruent work when interpreted in terms of goal progress increases the motivation to do goal incongruent activities (e.g., partying with friends in the evening instead of doing more studies or choosing an unhealthy drink over a healthy drink). On the contrary, the goal congruent work when interpreted in terms of goal commitment makes it less likely for individuals to do goal

incongruent activities (e.g. partying with friends in the evening instead of doing more studies or choosing an unhealthy drink over a healthy drink).

The implication is that goal progress and goal commitment are priming issues. Priming individuals with goal progress induces them to a mental state wherein they feel as if they are closer to their goal without really seeing on pen and paper how much they have progressed. Priming individuals with goal commitment induces them to a mental state wherein they feel as if the goal is important and the expectancy of goal attainment is high.

Interestingly, researchers doing experiments in the field of goal progress/commitment have come up with ideas to operationalize goal progress in terms of actual level of goal completion. In an experiment (Experiment 2) in Fishbach & Dhar (2005), the levels of goal completion for two groups of dieters were manipulated. The weight loss scales were manipulated so that one group of dieters could see that they had actually made more weight loss than the other group of dieters. The authors named the different levels of weight loss as faster or sufficient progress and slower or insufficient progress. The dieters were subsequently asked to make a selection between a chocolate bar and an apple as a parting gift. It was observed that, the dieters who saw sufficient progress towards their ideal weight preferred the chocolate cake over the apple more as compared to the dieters who saw insufficient progress. However, this operationalization of goal progress is actually contradictory to progress being considered a priming issue.

If level of progress can alter the outcomes of progress then progress is no longer a priming issue. It's an issue related to actual level of goal completion. That is, the level of work done determines if progress can produce high levels of goal incongruence. An example of goal progress being operational as an issue related to actual level of goal completion is the Small Area hypothesis. The Small Area hypothesis has been proposed in Koo & Fishbach (2012). It is stated in this hypothesis that, in the initial stages of goal

completion individuals who focus on the work done rather than the work left show higher motivation for goal adherence. However, in the final stages of goal completion, individuals who focus on the work left rather than the work done show higher motivation for goal adherence.

For example, in one of their experiments in Koo & Fishbach (2012), the authors asked participants to do a word completion task. Participants were told that they could earn a bonus for successful and timely completion of the task. Subsequently, the level of goal progress was manipulated by informing participants they had achieved either 20 % task completion (low progress) or 80 % task completion (high progress). It was subsequently observed that focus on completed or remaining progress had differential effects in terms of goal adherence. Participants in the low progress condition showed greater levels of goal adherence if they focused on 20% completion (smaller area) rather than 80% remaining (larger area). Participants in the high progress condition showed greater levels of goal adherence if they focused on 20% remaining (smaller area) rather than 80% remaining (larger area).

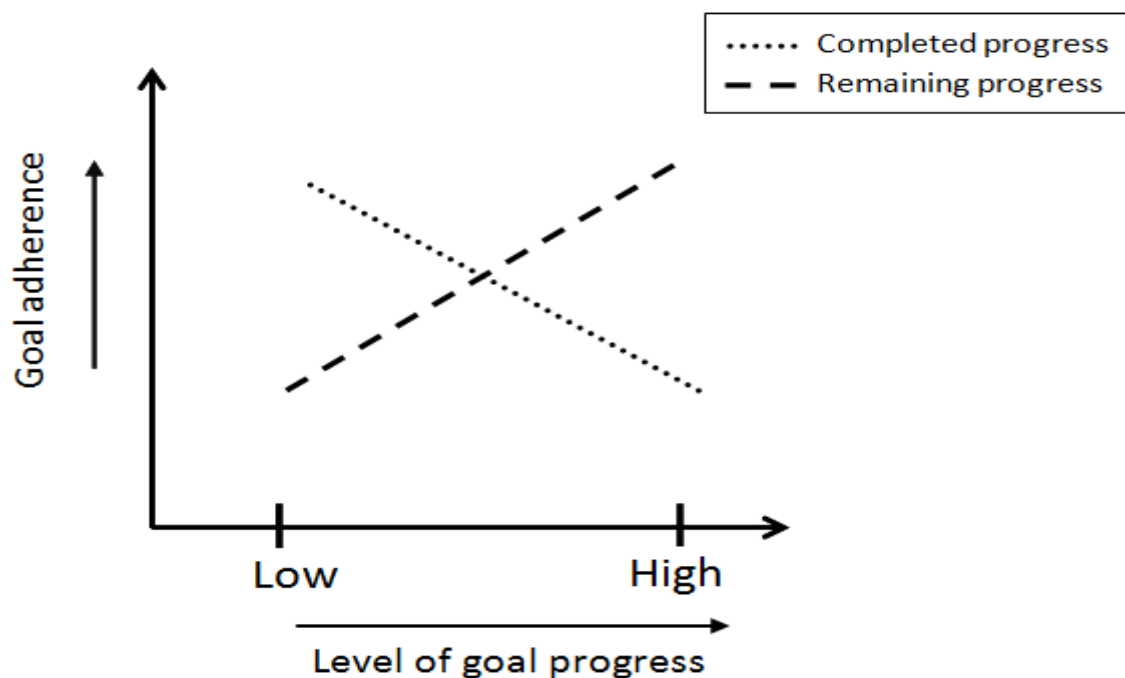


Figure 5: Summary of the findings of Koo & Fishbach (2012)

A summary of the key findings of Koo & Fishbach (2012) is shown in Figure 5.

Another example of goal progress being operationalized as an issue related to actual level of goal completion is the work of Zhang & Huang (2010). The findings of Zhang & Huang (2010) indicate that when level of actual goal progress is high, if individuals attribute their high progress to themselves (earned progress), they would feel a high level of motivation to pursue the goal. However, if individuals attribute their high progress to external situational factors (endowed progress), they would feel a low level of motivation to pursue the goal. On the contrary, the authors show that when level of actual goal progress is low, then if individuals attribute their low progress to themselves, they would feel low motivation to adhere to the goal. However, if individuals attribute this low progress to some other situation and not to themselves, then they would feel high motivation to adhere the goal. The summary of the key findings obtained from Zhang & Huang (2010) has been shown in Figure 6.

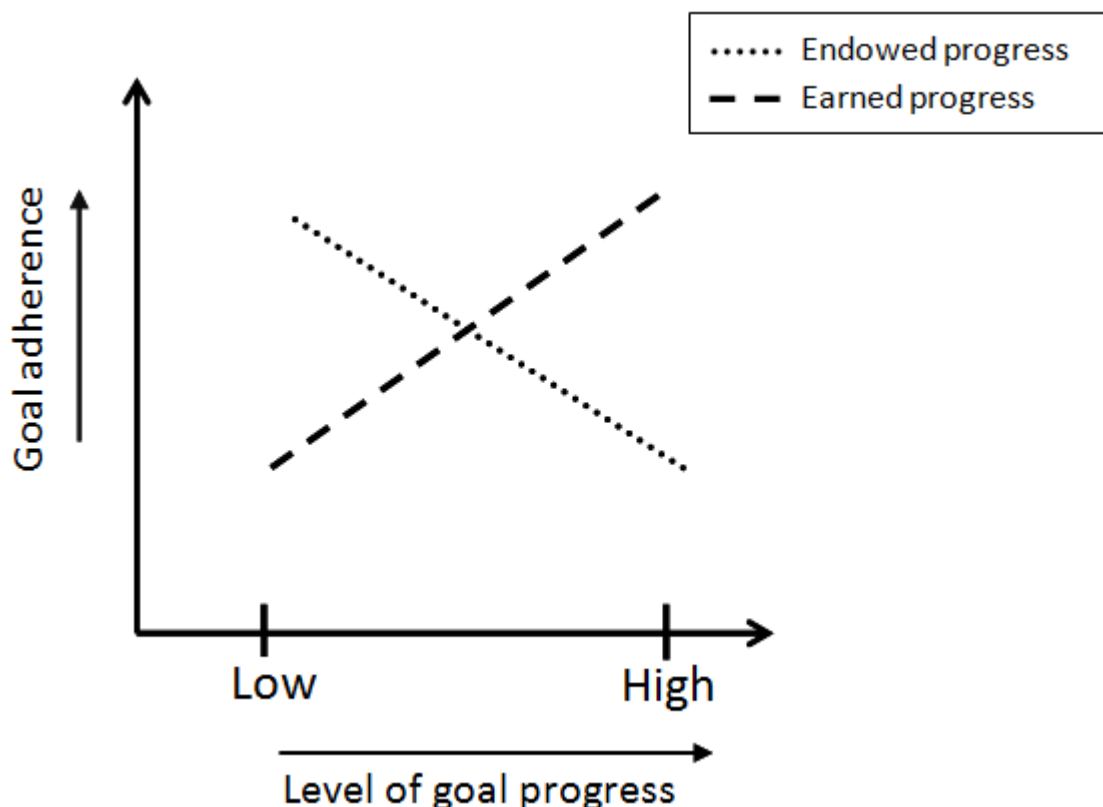


Figure 6: Summary of the findings of Zhang & Huang (2010)

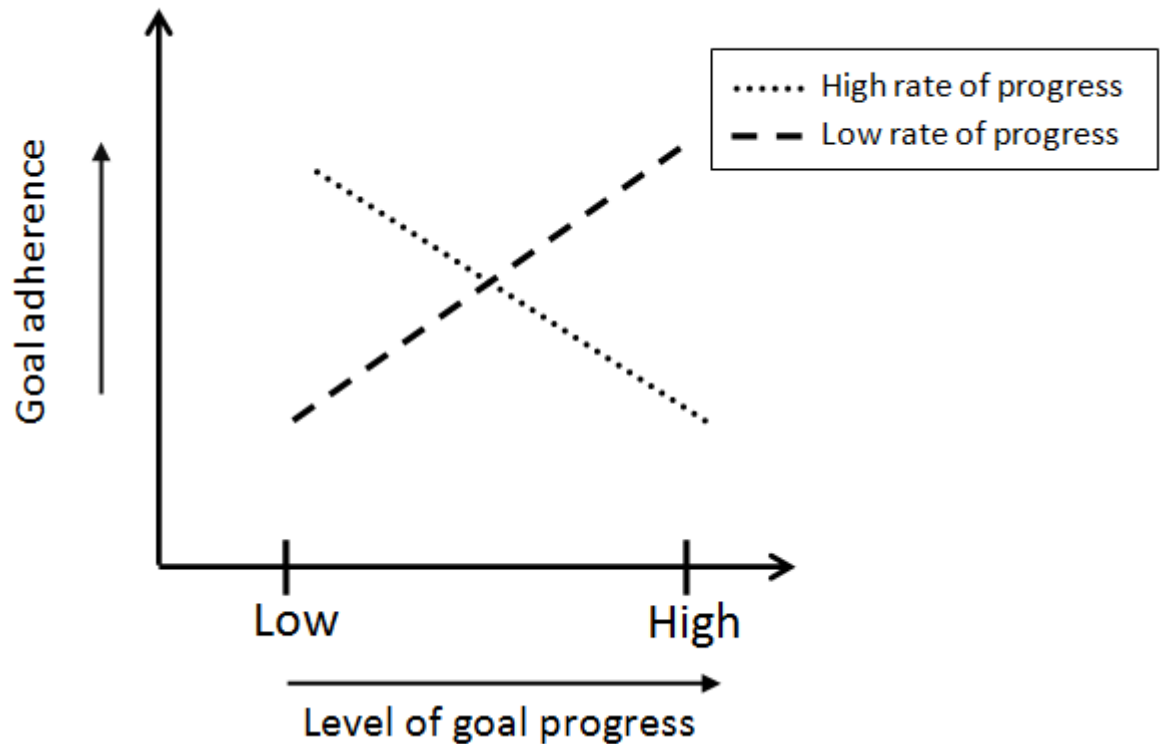


For example, in one of their experiments in Zhang & Huang (2010), the authors had individuals participating in a loyalty program to get free sandwiches. The program required participants to get nine coupons in order to get a free sandwich. In the low progress condition, the authors gave three coupons to individuals. In the high progress condition, the authors gave nine coupons to individuals. Subsequently, the authors manipulated the attribution of progress by stating that the coupons were earned by the individuals by repeated purchases made from the store(earned progress) or were distributed as free bounties to them by the store(endowed progress). Subsequently, the individuals were asked to state their interest to make subsequent visits to the store in order to get the free sandwich.

The authors observed that individuals who had made low progress showed higher interest to make future visits to the store in the endowed progress condition as compared to the earned progress condition. However, individuals who had made high progress showed higher interest to make future visits to the store in the earned progress condition as compared to in the endowed progress condition. Summarily thus, Zhang & Huang (2010) discuss a 2 (Level of goal progress: High vs. Low) \* 2 (Type of progress: Endowed vs. Earned) interaction with interest for goal adherence as the dependent variable. Thus in Zhang & Huang (2010), goal progress has been operationalized as an issue related to actual level of goal completion and not as priming issue.

A third example of goal progress being operationalized as an issue related to actual level of goal completion is the work of Huang & Zhang (2011). The findings of Huang & Zhang (2011) indicate that when level of goal progress is low, then individuals show low degrees of motivation in pursuing a goal if rate of goal progress is low whereas they show high degrees of motivation in pursuing the goal if rate of goal progress is high. On the contrary, when level of goal progress is high, then individuals show high degrees of motivation in pursuing the goal if rate of goal progress is low whereas they show low degree of motivation in pursuing the goal if rate of goal

progress is high. A summary of the findings obtained from Huang & Zhang (2011) has been shown in Figure 7.



**Figure 7: Summary of the findings of Huang & Zhang (2011)**

For example, in one of their experiments in Huang & Zhang (2011), the authors presented participants with a task to identify ambiguous audio and visual stimuli. Participants were informed that they would be awarded points for correct answers and that they would receive an award if they reach 900 points. After completing one round of their task, participants in the high (low) progress condition were informed that they had accumulated 600(300) points. They were subsequently informed that their rates of progress were faster or slower than their fellow participants. After this, participants were asked to wait for some time for a bonus question to appear on their computer screens which could give them extra marks. However, the bonus question never appeared and authors measured the time participants spent on waiting for the bonus question to appear. The authors observed that in the low progress condition, faster (vs. slower) rate of progress motivated participants to show more persistence in waiting. In

the high progress condition, slower (vs. faster) rate of progress motivated participants to show more persistence in waiting. Summarily thus, Huang & Zhang (2011) discuss a 2 (goal progress: High vs. Low) \* 2 (Rate of progress: High vs. Low) interaction with motivation for goal adherence as the dependent variable. Once again, goal progress has been operationalized as an issue related to actual level of goal completion and not a priming issue in Huang & Zhang (2011).

Overall thus, it can be said that there are conflicting perspectives on whether goal progress and goal commitment can be considered as priming issue or an issue related to actual level of goal completion.

In the current research, this discussion is extended. Goal progress has been defined as a sense of movement towards one's desired goal and a sense of discrepancy reduction between one's initial state and the end point (Fishbach & Dhar, 2005; Fishbach, Zhang & Koo (2009). Results from studies like Fishbach & Dhar (2005); Zhang, Fishbach & Dhar (2007) indicate that goal progress promotes goal incongruent behaviour irrespective of the level of goal completion. Thus, it is construed that goal progress is a priming issue. Therefore, merely priming individuals with goal progress would have similar effects on level of goal congruent behaviour irrespective of the stages of goal completion. It is therefore predicted that:

**H4a:** For individuals primed with goal progress, stages of goal completion will have no effect on individuals' level of willingness to engage in goal incongruent behaviour irrespective of the stages of goal completion.

Goal commitment has been defined as a sense that the goal is valuable and the expectancy of attainment is high (Fishbach & Dhar, 2005; Fishbach, Zhang & Koo, 2009). Results from studies like Fishbach & Dhar (2005); Zhang, Fishbach & Dhar (2007) indicate that goal commitment makes it less likely that individuals would engage in goal

incongruent behaviour irrespective of the level of goal completion. Thus, it is construed that goal commitment is a priming issue. Therefore, merely priming individuals with goal commitment would have similar effects on level of goal congruent behaviour irrespective of the stages of goal completion. It is therefore predicted that:

**H4b:** For individuals primed with goal commitment, stages of goal completion will have no effect on individuals' level of willingness to engage in goal incongruent behaviour irrespective of the stages of goal completion.

## CHAPTER 4: METHODS AND RESULTS

The different hypotheses proposed in the current research were tested across a series of five studies. The procedures that were followed for recruiting the experimental participants for the five studies are described in Section 4.1. Subsequently, the different studies that were conducted for the purpose of the current research are described in detail and the results that were obtained from the different studies are reported.

### 4.1 PROCEDURE FOR RECRUITING EXPERIMENTAL PARTICIPANTS FOR THE DIFFERENT STUDIES

All studies described and reported in the current research were approved by the Bond University Research Ethics Committee (BUHREC). Participants were students from the Business School at Bond University. Students signed up for the studies online using the Bond University Online Research Participation Systems or the Sona Systems as it is popularly known. The recruitment of the study participants was done using the following procedure:

Firstly, professors teaching different subjects at the Business School at Bond University were consulted regarding possible recruitment of students from their classes for the studies. Some of the professors who were contacted allowed their students to participate in the studies. The students were offered one extra credit in the subject taught by the consenting professors for participating in the studies.

A notice regarding the studies was then put up on the I-learn platforms of the subjects that the concerned professors were teaching. Now, what actually is this I-Learn? At Bond University, an online teaching platform called I-Learn is used by all professors. Professors update all information pertaining to their classes (e.g. lecture notes, notifications regarding class timings, exams etc.) on the I-Learn platform. There are unique I-Learn platforms for every subject that is taught at

Bond. Students enrolled in a subject have access to the I-Learn platform for that subject.

What essentially was there in the notice that was put up on I-Learn? The notice simply contained some details regarding the studies e.g. a brief description of the studies, incentive offered for participating in the studies, how to sign up for the studies, date, time and venue of the studies etc.

A sample copy of the study notification is provided in the Appendix section.

It is important to note that across all the studies that were conducted for testing the different propositions of the current research, students could participate in only one study and that too in only one condition of a study. This was done since the studies had between subject designs and also in order to avoid any bias arising from any potential spillover effect.

## **4.2 STUDY 1: REPLICATION OF THE DIVERGENT EFFECTS OF GOAL PROGRESS AND GOAL COMMITMENT**

### **4.2.1 Method**

The objective of Study 1 was to replicate the primary findings from the seminal papers on the effects of goal progress and goal commitment [e.g. Fishbach & Dhar (2005); Zhang, Fishbach & Dhar (2007)] which suggest that goal progress makes it more likely for individuals to do goal incongruent behaviour as compared to goal commitment.

Ninety three business students from an Australian University participated in this study. Course credits were offered for participation in this study. A 2 (Goal orientation: progress vs. commitment)\* 2 (Focal goal salience: high vs. low) between

subjects experimental design was used for this study. Participants were randomly allocated across different experimental conditions. Based on the studies of Fishbach & Dhar (2005) and Zhang, Fishbach & Dhar (2007), it can be derived that a natural prerequisite for the effects of goal progress or goal commitment to occur is that individuals should have the focal goal salient in their mind. In other words, only when a focal goal is salient in one's mind, can the person be made to think he has made progress towards the goal or that he is committed to the goal. Thus, focal goal salience with two levels - high and low - was used as one of the independent variables in this study, the other independent variable being goal orientation with two levels- progress and commitment. Willingness to engage in goal incongruent activities was used as the dependent variable in this study.

The divergent effects of goal progress and goal commitment have been displayed in prior research like Fishbach & Dhar (2005); Fishbach, Dhar & Zhang (2006); Zhang, Fishbach & Dhar (2007) in academic contexts. Thus, a similar context was chosen for the current study.

In the study, participants were first primed with an academic goal. They were asked to imagine a scenario ("Imagine yourself as a person who has a goal of doing well academically at university"). After imagining the scenarios, participants in the high focal goal salience condition were subject to the high focal goal salience prime. This was in the form of the following statement: "Describe how studying hard regularly can help one to do well academically as compared to not studying hard regularly" and participants were then required to write out a short paragraph on how studying hard could contribute to their academic success. Participants in the low focal goal salience prime condition were not subject to any such description task.

Subsequently, participants were primed with goal progress or goal commitment. In accordance with Fishbach & Dhar (2005), a progress scale and a commitment scale was used for this purpose. Specifically, participants were asked to rate their feelings

about goal progress or goal commitment on scales of 1 to 7 after performing an activity related to their goal. Higher ratings on the scales would indicate stronger feelings regarding progress or commitment. For example, the progress (commitment) prime was administered by asking students to give ratings to statements like:

"Imagine that you have studied hard for an entire day. As a person who has a goal of doing well academically, indicate on the following scale whether you would feel that you have made progress (feel committed) towards your academic goal whenever you study hard for an entire day."

Subsequently, participants were asked to rate on scales of 1 to 7 their willingness to engage in activities that are inconsistent with the goal of doing well academically. Higher numbers indicated higher levels of interest for doing the incongruent activities.

A set of four actions were presented to participants. An action incongruent with one's goal of doing well academically is defined as any activity that is unrelated to academics or studying and which takes time away from, or interferes with, studying. The four goal incongruent actions used in Experiment 1 were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).
- (ii) Watching your favourite programs on television or on online channels like You Tube that evening.
- (iii) Browsing through shopping websites and buying things that you like.
- (iv) Playing on your PC for a few hours that evening, such as playing video games or chatting on Facebook with friends?



With respect to the goal incongruent activities that have been used in Study 1, there is one issue that was addressed post hoc. In Australia, the leading supermarkets like Coles and Woolworth offer online purchases and home deliveries of essential items like groceries, food, vegetables etc. Thus, one of the goal incongruent items that have been used in Study 1 viz. browsing through shopping websites and buying things that one likes may not be considered as a goal incongruent act. The participants in Study 1 may believe that they need groceries and food and thus purchasing it online through the websites of the supermarkets can actually save them study time. Thus, there is a strong possibility that “browsing through shopping websites and buying things that one likes” would not be considered as a goal incongruent activity by participants in Study 1. In order to avoid this confusion this item was dropped from our analysis of the results of Study 1.

Thus, the three goal incongruent activities that were considered for the analysis of the results of Study 1 are:

- (i) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).
- (ii) Watching your favourite programs on television or on online channels like You Tube that evening.
- (iii) Playing on your PC for a few hours that evening, such as playing video games or chatting on Facebook with friends?

As mentioned previously, an activity incongruent with one's goal of doing well academically is defined as any activity that is unrelated to studying and which takes time away from, or interferes with, studying. It was reasoned that, amongst the three goal incongruent activities for which participants rated their preferences, the one which receives the highest rating can be considered as the most accurate estimate of a participants' willingness to perform behaviour incongruent with his/her academic goal. This would reduce the problem of heterogeneous preferences affecting multi-item

composite measures as only the rating for the item which is most likely to be pursued by a participant in an experimental condition is being chosen as a measure of his/her willingness to engage in goal incongruent activities. Since the objective is to assess goal incongruence and not to assess whether a particular activity is liked or not by participants, it is logical to assume that any activity signifying goal incongruence can be taken as a representative of a participants' willingness to engage in goal incongruent activities.

#### **4.2.2 Results**

##### **Manipulation checks**

To assess the effectiveness of the progress manipulation, the mean score of participants on the progress scale was compared against the test value of 4. To recollect, the progress scale used in Study 1 was the following:

“Indicate on the following scale whether you would feel that you have made progress towards your academic goal whenever you study hard for an entire day.” A scale of 1(= not at all) to 7( = a lot ) was used.

Comparison using t - test showed that this mean score ( $M=5.8$ ) was significantly different from 4 [ $t(46) = 10.57, p < .05$ ]. Thus, the progress manipulation in Study 1 worked effectively.

To assess the effectiveness of the commitment manipulation, the mean score of participants on the commitment scale was compared against the test value of 4. To recollect, the commitment scale used in Study 1 was the following:

“Indicate on the following scale whether you would feel that you are committed towards your academic goal whenever you study hard for an entire day.” A scale of 1(= not at all) to 7(= a lot) was used.

Comparison using t - test showed that this mean score ( $M=5.78$ ) was significantly different from 4 [ $t(45) = 9.84, p < .05$ ]. Thus, the commitment manipulation in Study 1 worked effectively.

### **Replication of the Effects of Progress/Commitment**

The dependent measure in Study 1 was named as willingness to engage in goal incongruent activities. To recollect, the three goal incongruent activities used for the final analysis in Study 1 were:

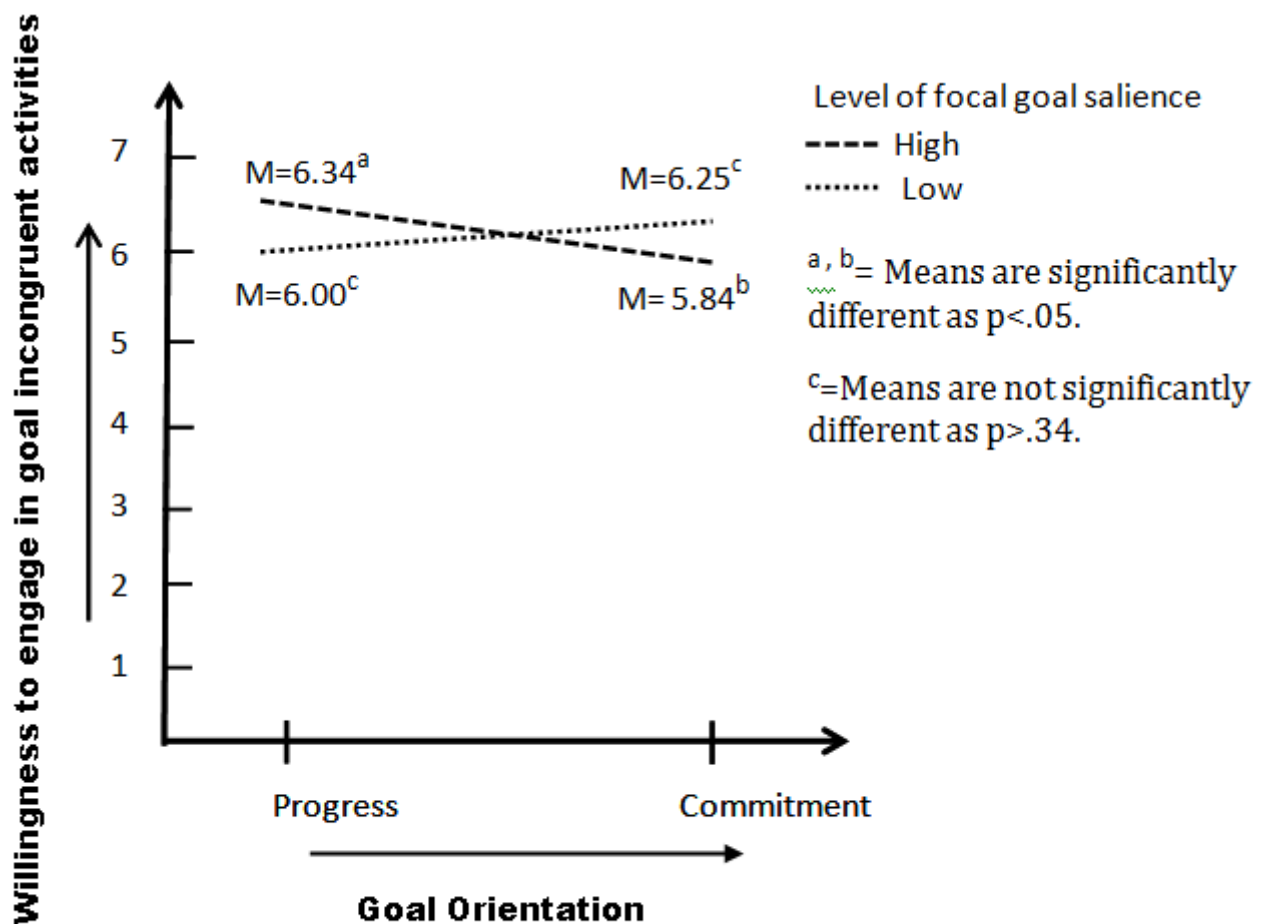
- (i) Hanging out with friends that evening for relaxing and having fun.
- (ii) Watching one's favourite programs on television.
- (iii) Relaxing on the computer by chatting on Facebook with friends.

The highest rating from these three goal incongruent measures was taken as the goal incongruence measure for a participant in his/her designated experimental condition.

A two way ANOVA was subsequently performed with goal salience and goal orientation as the independent variables and the willingness to engage in goal incongruent activities as the dependent variable. A significant goal orientation\* focal goal salience interaction was observed ( $F(1, 89) = 4.23, p < .05$ ). No other effects were significant. The interaction has been presented in Figure 8.

Contrast analysis revealed that in the high focal goal salience condition, the willingness to engage in goal incongruent activities was significantly greater in the progress orientation as compared to in the commitment orientation ( $M_{\text{progress}} = 6.34$  vs.  $M_{\text{commitment}} = 5.84$ ,  $t(89) = 2.00$ ,  $p < .05$ ).

In the low focal goal salience condition, the willingness to engage in goal incongruent activities did not differ significantly across progress and commitment orientations ( $M_{\text{progress}} = 6.00$  vs.  $M_{\text{commitment}} = 6.25$ ,  $t(89) = .94$ ,  $p > .34$ ).



**Figure 8: Interaction of Goal orientation\* Level of focal goal salience on willingness to engage in goal incongruent activities**

### 4.2.3 Discussion

The current study replicates the findings of the seminal papers (e.g. Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007) in the area of goal progress and goal commitment research. It is observed that when the goal being pursued is made salient in the minds of individuals, then a goal progress prime induces them to engage in a higher level of goal incongruent activities as compared to a goal commitment prime. This reaffirms the findings of the existing literature that interpreting initial goal congruent actions in terms of progress (commitment) towards a goal makes individuals feel more (less) liberated from their goal and engage in something that is incongruent with their focal goal.

An interesting finding from Study 1 is that the divergent effects of goal progress and goal commitment are observed only when the level of goal salience in the minds of individuals is high and not when the level of goal salience is low. This is interesting theoretically as previous research on goal progress and goal commitment does not take into account level of goal salience as a separate independent variable.

The definition of goal progress for example indicates that priming individuals with goal progress induces them to think that they have reduced the distance between their current state and their end goals.

The definition of goal commitment, on the other hand, indicates that priming individuals with goal commitment induce them to think that the goal is valuable and the expectancy of attainment is high.

These definitions should hold as long as individuals are aware that they are pursuing their goals, irrespective of the level of salience of the goal in individuals' minds.

However, in the current study, the effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent behaviour are observed only when the focal goal has a high level of salience in the minds of individual and not when the level of salience is low. This suggests that individuals need to be clear about the goal that they are pursuing in order for the goal progress and goal commitment primes to work effectively. This can be marked as a theoretical contribution observed from the findings of Study 1.

In the current study, participants in the high salience conditions clearly described the things that they need to do in order to achieve their goal of doing well academically. Participants in the low salience condition did not do any such description task. It can be construed that the high goal salience condition (vs. low goal salience condition) made it easier for individuals to understand what the goal of doing well academically really stands for and how to achieve the goal. Thus, progress and commitment primes made more sense to them in the high goal salience condition as compared to in the low goal salience goal condition. In other words, in the high goal salience condition (vs. low goal salience condition), individuals were more clear about being in progress or commitment modes of thought. Thus, the differences between progress and commitment were prominent in the high goal salience condition as compared to in the low goal salience condition.

### **4.3 STUDY 2: REGULATORY FOCUS AS A POSSIBLE MODERATOR OF THE EFFECTS OF PROGRESS/COMMITMENT**

#### **4.3.1 Method**

The objective of Study 2 is to test H1a and H1b.

It has been stated in H1a that:

The goal progress prime would lead to higher levels of goal incongruent behaviour as compared to the goal commitment prime when the individuals concerned have a prevention-focused style of thinking.

It has been stated in H1b that:

The goal progress prime would not lead to higher levels of goal incongruent behaviour as compared to the goal commitment prime when the individuals concerned have a promotion-focused style of thinking-H1b.

Thus, the independent variables in Study 2 were goal orientation - with two levels - progress and commitment and a continuous variable- regulatory focus of individuals. The dependent variable in Study 2 was participants' willingness to engage in goal incongruent activities. The study tested for the role of regulatory focus as a moderator of the relationship between goal orientation and the willingness to engage in goal incongruent activities.

Ninety two business students from an Australian university participated in this study. Course credits were offered for participation in the study. Between-subjects experimental design was used for this study. The participants were randomly allocated across the experimental conditions used in the study.

Based on the results of Study 1, it can be derived that a natural prerequisite for the effects of goal progress or goal commitment to occur is that individuals should have the focal goal salient in their mind. In other words, only when a focal goal is salient in one's mind, can the person be made to think he has made progress on the goal or that he is committed to the goal. Thus, participants in the different experimental conditions were all administered with the high focal goal salience prime.

Similar to Study 1, participants in Study 2 were first primed with an academic goal. They were asked to imagine a scenario (e.g., "Imagine yourself as a person who has a goal of doing well academically at university"). After imagining the scenarios, participants were subject to the high focal goal salience prime. This was in the form of

the following statement: "Describe how studying hard regularly can help one to do well academically as compared to not studying hard regularly."

Subsequently, participants were primed with goal progress or goal commitment. In accordance with Fishbach & Dhar (2005) and similar to Study 1, this was done by using a progress scale and a commitment scale. Specifically, participants were asked to rate on scales of 1 to 7 the extent to which they feel committed to their goal or the extent to which they feel that they have made progress on their goal after performing an activity related to their goal. Higher ratings on the scales would indicate higher feelings of commitment or progress. For example, the progress (commitment) prime was administered by asking students to give ratings to statements like: "Imagine that you have studied hard for an entire day. As a person who has a goal of doing well academically, indicate on the following scale whether you would feel that you have made progress (feel committed) towards your academic goal whenever you study hard for an entire day." Subsequently, participants were asked to rate on scales of 1 to 7 their interest in doing actions that are inconsistent with the goal of doing well academically. Higher numbers indicated higher level of willingness to engage in such activities.

The four goal incongruent activities that participants were presented to participants in Study 2 were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Browsing through shopping websites that you like.
- (iv) Attending a sports event.



It can be recollected that in Study 1, the activity “browsing through shopping websites and buying things that one likes” was deemed ineligible as an activity that is incongruent with one’s academic goal. This was because “buying things that one likes” includes the possibility of buying groceries and food items which are necessities and cannot be considered as spending time on doing something goal incongruent. Thus, it was postulated that removing the component “buying things that one likes” and retaining the component “browsing through shopping websites that you like” will remove the possibility of participants in Study 2 viewing this activity as not being goal incongruent.

The rest are all outdoor activities. In order to take part in these activities, participants do need to go out from their study place and spend time on doing these activities outside their studies.

However, like in Study 1, with respect to the goal incongruent activities that have been used in Study 2, there is one issue that was addressed post hoc. It was decided that the outdoor activities in this study can be clearly considered as more goal incongruent as compared to the indoor activity viz. “browsing through shopping websites that you like.” This is because each of the three outdoor activities- “Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun)”, “Attending a social/cultural event (e.g. a music concert, a dance concert or a play)”, “Attending a sports event” would require more time to be spent on those activities once participants start pursuing those as compared to the activity “browsing through shopping websites that you like” . The activity “browsing through shopping websites that you like” can be pursued even during studying (e.g. taking a ten minute break and quickly checking into a shopping offer on a website recommended by a friend and then getting back to studies) which then makes it unlikely that this activity will be considered as something really incongruent with one’s academic goal.

Thus, the three goal incongruent activities that were considered for the final analysis of the results of Study 2 were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

Like in Study 1, the dependent measure for Study 2 was named as willingness to engage in goal incongruent activities. The highest rating from amongst the three goal incongruent activities viz. “hanging out with friends that evening for relaxing and having fun”, “attending a social/cultural event (e.g. a music concert, a dance concert or a play)”, “attending a sports event” was taken as the goal incongruence measure for a participant in his/her designated experimental condition.

Subsequently after responding to the dependent measure questions, participants responded to the questions on regulatory focus. Taking cue from Mao & Oppewal (2012), the moderator regulatory focus is not being induced experimentally in this study but is being operationalized as a variable that represents existing differences between experimental participants.

The regulatory focus scale was adopted from Haws, Dholakia & Bearden (2010). The composite scale of Regulatory Focus was developed by Haws, Dholakia & Bearden (2010), after assessing the existing chronic regulatory focus scales (viz. RFQ scale developed by Higgins, et al., 2001; BIS/BAS scale developed by Carver & White, 1994; Lockwood scale developed by Lockwood, Jordan & Kunda, 2002) and using factors such as “theoretical coverage, internal consistency, homogeneity, stability, and predictive ability” (Haws, Dholakia & Bearden, 2010, p1).

The items that were used for measuring regulatory focus in Study 2 are given below:

<i>Promotion-focused items</i>	<i>Prevention-focused items</i>
(i) When it comes to achieving things that are important to me, I find that I don't perform as well as I would ideally like to do(R)*.	(i) I usually obeyed rules and regulations that were established by my parents.
(ii) I feel like I have made progress toward being successful in my life.	(ii) I see myself as someone who is primarily striving to become the self I "ought" to be - fulfill my duties, responsibilities and obligations.
(iii) When I see an opportunity for something I like, I get excited right away.	(iii) I worry about making mistakes.
(iv) I frequently imagine how I will achieve my hopes and aspirations.	(iv) I frequently think about how I can prevent failures in my life.
(v) I see myself as someone who is primarily striving to reach my "ideal self"- to fulfill my hopes, wishes, and aspirations.	(v) Not being careful enough has gotten me into trouble at times(R)*.

**Table 1: Items for measuring regulatory in Study 2, \*R = Reverse coded**

#### **4.3.2 Results**

##### **Manipulation Checks**

With regards to the manipulation check of the goal progress and goal commitment prime in this study, the procedure adopted was similar to Study 1. The mean scores on the progress scale and the commitment scale were compared against the test value of 4.

Results showed that the mean score of participants on the progress scale was 6.06. Comparison using t- test showed that this mean score was significantly different from 4 [ $t(44) = 13.73, p < .05$ ]. Thus, the progress manipulation in Study 2 worked effectively.

Results also showed that the mean score of participants on the commitment scale was 5.97. Comparison using t- test showed that this mean score was significantly different from 4 [ $t(46) = 13.42, p < .05$ ]. Thus, the commitment manipulation in Study 2 worked effectively.

Further, it was observed that across all conditions, participants described how studying hard regularly would help them to achieve their academic goal. Thus, the high goal salience prime in Study 2 worked effectively.

### **Testing H1a/H1b**

It has been stated in H1a that:

The goal progress prime would lead to higher levels of goal incongruent behaviour as compared to the goal commitment prime when the individuals concerned have a prevention-focused style of thinking.

It has been stated in H1b that:

The goal progress prime would not lead to higher levels of goal incongruent behaviour as compared to the goal commitment prime when the individuals concerned have a promotion-focused style of thinking.

Before creating any composite measure of regulatory focus, the internal consistency of the regulatory focus items was assessed using the Cronbrach  $\alpha$  reliability

measure. It was observed that the reliability of the promotion and prevention focus items was extremely low ( $\alpha = .38$  for prevention-focus items and  $\alpha = .59$  for promotion-focus items). Thus, contrary to expectations, the scale of Haws, Dholakia & Bearden (2010) proved to be unreliable and created an issue related to actual level of goal completion in Study 2 with respect to an important variable in this study, which is regulatory focus, the proposed moderator.

Nonetheless, these scales were still used to test for the proposed moderation effect. Further details regarding why this scale was chosen in the first place has been discussed in the General Discussion section of this thesis. It was observed that leaving out the item “When it comes to achieving things that are important to me, I find that I don’t perform as well as I would ideally like to do (Reverse coded)” increases the Cronbach  $\alpha$  of the promotion-focused items to .62. It was also observed that leaving out the item “Not being careful enough has gotten me into trouble at times (Reverse coded)” increases the Cronbach  $\alpha$  of the promotion-focused items to .51. Thus, these two items were subsequently left out while creating the regulatory focus measure.

In accordance with the method adopted in Lockwood, Jordan & Kunda (2002); Sengupta & Zhao (2007), a measure of regulatory focus was created by subtracting the average ratings of the prevention scores from the average ratings of the promotion scores such that higher number on the index indicated stronger promotion focus. One participant did not respond to some of the regulatory focus measures and was thus left out from the analysis. Linear regression was used to test for H1a and H1b. The dependent variable in the regression equation was the willingness of individuals to engage in goal incongruent activities. Goal orientation (dummy coded as progress=0 and commitment=1), average regulatory focus of participants, interaction between goal orientation and average regulatory focus scores were included as independent predictors.

The main effect of goal orientation on willingness to engage in goal incongruent behaviour was significant ( $\beta = -.66$ ,  $t = -2.35$ ,  $p < .05$ ) indicating that as goal orientation changed from progress to commitment, the willingness of individuals to do goal incongruent behaviour decreased. The simple effect of regulatory focus on willingness to engage in goal incongruent behaviour when individuals were primed with goal progress was marginally significant ( $\beta = -.32$ ,  $t = -1.86$ ,  $p = .065$ ) indicating that when individuals are primed with goal progress, stronger prevention focus would lead to higher levels of goal incongruent behaviour as compared to stronger promotion focus.

The two way- interaction between goal orientation and regulatory focus was not significant ( $p > .3$ ).

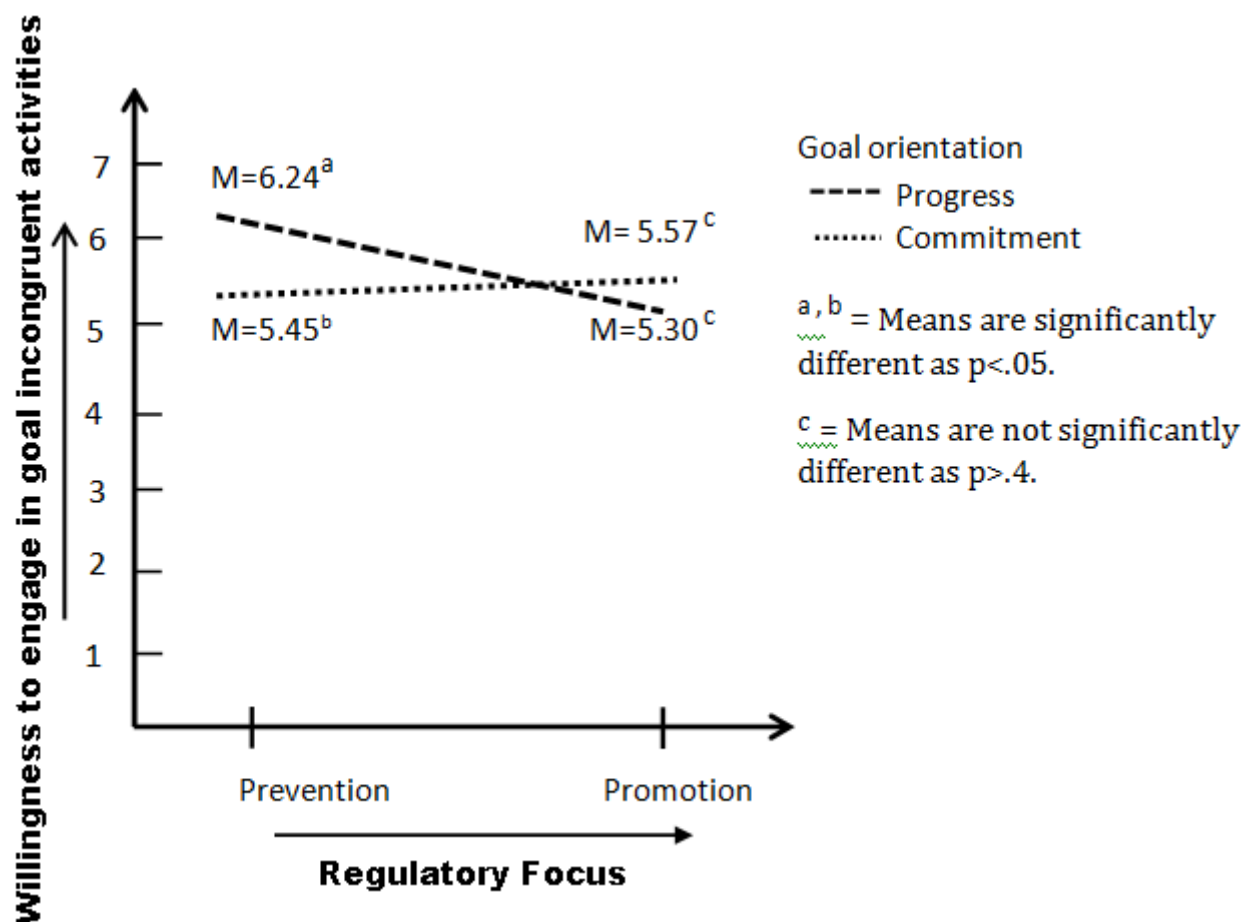
In order to test the simple effect regulatory focus on willingness to engage in goal incongruent behaviour when individuals were primed with goal commitment, the regression analysis was re-run with goal orientation (this time dummy coded as progress = 1 and commitment = 0), average regulatory focus of participants, interaction between goal orientation and average regulatory focus scores as independent predictors.

As expected, the main effect of goal orientation on willingness to engage in goal incongruent behaviour was significant with exactly the same coefficient as the first regression but with opposite valence ( $\beta = .66$ ,  $t = -2.35$ ,  $p < .05$ ) indicating that as goal orientation changed from commitment to progress, the willingness of individuals to engage in goal incongruent behaviour increased.

The simple effect of regulatory focus on willingness to engage in goal incongruent behaviour when individuals were primed with goal commitment was however not significant ( $p > .66$ ) indicating that goal incongruent behaviour would not change as a function of regulatory focus of individuals when individuals are primed with goal commitment.

As expected, the two way- interaction between goal orientation and regulatory focus was not significant with exactly the same p-value as was obtained during the first regression ( $p > .3$ ). Though the two way interaction was not significant, H1a and H1b were still tested for mainly due to the thinking that a problematic regulatory focus scale could have contributed to this non- significant interaction. Also, there are examples in literature wherein simple effect tests have been done in the presence of non-significant interactions (e.g. Zlatevska & Spence, 2012). A spotlight analysis (following Preacher & Hayes, 2004; Fitzsimons, 2008, Spiller et al., 2013) at one standard deviation below the mean regulatory focus scores of participants showed that there was a significant difference between the effects of goal progress and goal commitment on the willingness of individuals to perform goal incongruent behaviour ( $\beta = .79$ ,  $t = 2.21$ ,  $p < .05$ ). In other words, at one standard deviation below the mean regulatory focus scores of participants which actually indicates a strong prevention focus, the willingness to engage in goal incongruent behaviour was higher in the goal progress condition as compared to in the goal commitment condition. Thus, H1a was supported.

Spotlight analysis at one standard deviation above the mean regulatory focus scores of participants showed that there was no significant difference between the effects of goal progress and goal commitment on the willingness of individuals to perform goal incongruent behaviour ( $p > .4$ ). In other words, at one standard deviation above the mean regulatory focus scores of participants which actually indicates a strong promotion focus, the willingness to engage in goal incongruent behaviour did not change as a function of goal progress and goal commitment. Thus, H1b was supported. The results are shown in Figure 9.



**Figure 9: Interaction of Goal orientation\* Regulatory Focus on willingness to engage in goal incongruent activities**

Dummy coding of the categorical variable is required for spotlight analysis as per articles like Spiller et al. (2013) and thus goal orientation is dummy coded in this analysis. To get a clear picture of the results, the regression analysis is run twice, once with goal orientation dummy coded as progress=0 and commitment =1 and the second time with goal orientation dummy coded as progress=1 and commitment =0. The other variables – regulatory focus and the interaction effect of Goal orientation and regulatory focus remain the same during the analysis.

#### 4.3.3 Discussion

The proposed moderator in H1a/H1b is regulatory focus. Study 2 clearly establishes the role of regulatory focus as a moderator of the effects of goal progress and goal commitment on the willingness of individuals to do goal incongruent



behaviour. The findings imply that the differential effects of goal progress and goal commitment on willingness of individuals to engage in goal incongruent behaviour gets attenuated for promotion-focused individuals but continues to be present for prevention-focused individuals. These findings support our presumptions that regulatory focus is a potential moderator of the effects of goal progress and goal commitment.

The findings of the Study 2 are interesting and has implications beyond the progress/commitment literature. There are findings in the regulatory focus literature which indicate that prevention-focused individuals are vigilant and risk-averse whereas promotion-focused individuals are more exploratory and risk-seeking.

For example, results from Zhou & Pham (2004) indicate that promotion-focused individuals are more risk seeking in an investment domain as compared to prevention-focused consumers. While investing money, promotion-focused individuals are willing to make risky investments if the potential returns on their investment is higher. However, prevention-focused individuals prefer to play safe and avoid making any risky investment decision. If indeed promotion-focused individuals are more exploratory and risk-seeking, they should be less worried about deviating from their goal as compared to prevention-focused consumers, with a sense of optimism that things would fall in place later. The results obtained in Study 2 thus should have been obverse as compared to what has actually been observed. The differential effects of goal progress and goal commitment on willingness of individuals to perform goal incongruent behaviour should have been attenuated for prevention-focused individuals but should have been present for promotion-focused individuals. However, results obtained in Study 2 follow a completely opposite pattern.

This is important theoretically. Traditionally, regulatory focus theory (e.g. Higgins, 1997; Higgins, 1998) has portrayed promotion-focus as the frame of mind which encourages individuals to try out different things, care more about one's hopes,

aspirations etc. Prevention-focus has been portrayed as the frame of mind which encourages individuals to be vigilant, careful and responsible in their actions. However, the findings of Dholakia et al. (2006) do not support that presumption. The current study supports the findings of Dholakia et al. (2006) and finds evidence that a promotion-focus should result in more goal incongruent behaviour as compared to a prevention-focus.

#### **4.4 STUDY 3: LEVEL OF GOAL CONCRETENESS AS A POSSIBLE MODERATOR OF THE EFFECTS OF PROGRESS/COMMITMENT**

##### **4.4.1 Method**

The objective of Study 3 is to test H2a and H2b. It has been stated in H2a that the goal progress manipulation would lead to lesser goal incongruent activities when administered for an abstract goal as compared to when it is applied for a concrete goal.

It has been stated in H2b that the goal commitment manipulation would lead to equal levels of goal incongruent activities irrespective of whether the goal being pursued is abstract or concrete.

Thus, the independent variables in Study 3 were goal orientation - with two levels - progress and commitment and level of concreteness of the focal goal - abstract vs. concrete. The dependent variable in the study was participants' willingness to engage in goal incongruent activities.

Eighty business students from an Australian University participated in this study. Course credits were offered for participation in this study. A 2 (Goal orientation: progress vs. commitment)\* 2 (Level of goal concreteness: abstract vs. concrete) between subjects experimental design was used for this study. The participants were randomly allocated across different experimental conditions used in the study.

Similar to Study 1 and Study 2, an academic context was chosen for Study 3. Further, like in Study 1 & in Study 2, participants in the different experimental conditions were all administered with the high focal goal salience prime.

In the survey, participants were first primed with an abstract goal or a concrete goal.

In the abstract goal priming condition, participants were asked to imagine a scenario related to an abstract academic goal ("Imagine yourself as a person who studies at university with the goal of exploring the wide horizon of knowledge that exists in this world.")

In the concrete goal priming condition, participants were asked to imagine a scenario related to a concrete academic goal ("Imagine yourself as a person who studies at university with the goal of scoring high grades in your subjects.")

After imagining the scenarios, participants were subject to the high focal goal salience prime.

In the abstract goal priming condition, this was in the form of the following statement: "Describe how studying hard regularly can help one to explore the wide horizon of knowledge as compared to not studying hard regularly."

In concrete goal priming condition, this was in the form of the following statement: "Describe how studying hard regularly can help one to score high grades in your subjects as compared to not studying hard regularly."

Subsequently, participants were primed with goal progress or goal commitment. This method of priming was similar to that used in Study 1 and Study 2. In accordance

with Fishbach & Dhar (2005), this was done by using a progress scale and a commitment scale. Specifically, participants were asked to rate their feelings about goal progress or goal commitment on scales of 1 to 7 after performing an activity related to their goal. Higher ratings on the scales would indicate stronger feelings regarding progress or commitment.

For example, the progress scale in the abstract goal condition looked like: "Imagine that you have studied hard for an entire day. As a person who has the goal of exploring the wide horizon of knowledge that exists in this world, indicate on the following scale whether you would feel that you have made progress towards your goal whenever you study hard for an entire day."

The progress scale in the concrete goal condition looked like: "Imagine that you have studied hard for an entire day. As a person who has the goal of scoring high grades in his/her subjects, indicate on the following scale whether you would feel that you have made progress towards your goal whenever you study hard for an entire day."

The commitment scale in the abstract goal condition looked like: "Imagine that you have studied hard for an entire day. As a person who has the goal of exploring the wide horizon of knowledge that exists in this world, indicate on the following scale whether you would feel that you are committed towards your goal whenever you study hard for an entire day."

The commitment scale in the concrete goal condition looked like: "Imagine that you have studied hard for an entire day. As a person who has the goal of scoring high grades in his/her subjects, indicate on the following scale whether you would feel that you are committed towards your goal whenever you study hard for an entire day."

Subsequently, participants were asked to rate on scales of 1 to 7 their interest in engaging in activities that are inconsistent with the goal of doing well academically. Higher numbers indicated higher levels of willingness in engaging in the activities.

Following this, a manipulation check measuring the abstractness/concreteness of the goals was responded to by the participants. The following measure was used in the experimental conditions in which the participants were presented with the abstract goal- exploring the wide horizon of knowledge:

An abstract goal refers to a goal which is difficult to imagine. A concrete goal is defined as a goal which is easy to imagine. Based on these definitions, do you think that the goal of exploring the wide horizon of knowledge is an abstract goal or a concrete goal? The response was measured on a scale of 1(concrete) to 7(abstract). Thus, higher numbers on the scale indicated higher levels of perceived abstractness of the goal being pursued.

The following measure was used in the experimental conditions in which the participants were presented with the concrete goal- scoring high grades in their subjects:

An abstract goal refers to a goal which is difficult to imagine. A concrete goal is defined as a goal which is easy to imagine. Based on these definitions, do you think that the goal of scoring high grades in your subjects is an abstract goal or a concrete goal? The response was measured on a scale of 1(concrete) to 7(abstract). Thus, lower numbers on the scale indicated higher levels of perceived concreteness of the goal being pursued.

With regards to the goal incongruent activities, the same set of four activities used in Study 2 were presented to participants. The four activities were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Browsing through shopping websites that you like.
- (iv) Attending a sports event.

Like in Study 2, the activity “Browsing through shopping websites that you like” was dropped from the analysis. The three goal incongruent activities that were considered for the final analysis of the results of Study 3 were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

Like in Study 1 and Study 2, the dependent measure for Study 3 was named as willingness to engage in goal incongruent activities. The highest rating from amongst the three goal incongruent activities, viz., hanging out with friends that evening for relaxing and having fun, attending a social/cultural event ( e.g. a music concert, a dance concert or a play), attending a sports event was taken as the goal incongruence measure for a participant in his/her designated experimental condition.

#### **4.4.2 Results**

##### **Manipulation Checks**

With regards to the manipulation check of the goal progress and goal commitment prime in this study, the following procedure was adopted:

The ratings on the progress scales across the abstract and concrete goal conditions were collapsed to form the manipulation measure of progress in Study 3. Results showed that the mean score of participants on the progress scale was 5.92. Comparison using t- test showed that this mean score was significantly different from 4 [ $t(39) = 11.36, p < .05$ ]. Thus, the progress manipulation in Study 3 worked effectively.

Further, the ratings on the commitment scales across the abstract and concrete goal conditions were collapsed to form the manipulation measure of commitment in Study 3. Results showed that the mean score of participants on the commitment scale was 5.80. Comparison using t- test showed that this mean score was significantly different from 4 [ $t(39) = 10.91, p < .05$ ]. Thus, the commitment manipulation in Study 3 worked effectively.

With regards to the manipulation check measure of the abstractness / concreteness of the goals perceived by the participants in the different experimental conditions, it can be recollected that the following measure was used:

The ratings on the abstractness/concreteness scales were collapsed across the progress and commitment prime conditions separately for the abstract goal (exploring the wide horizon of knowledge that exists in this world) and the concrete goal (scoring high grades in one's subjects).

Comparisons of the abstractness/concreteness manipulation scores across the abstract and concrete goal conditions showed that the mean scores were significantly different ( $M_{\text{abstract}} = 4.45$  vs.  $M_{\text{concrete}} = 2.77$ ,  $F(1, 78) = 19.12$ ,  $p < .05$ ). In other words, the value of the abstractness/concreteness manipulation check measure was significantly higher in the abstract goal condition as compared to in the concrete goal condition. This shows that the individuals in the abstract goal condition perceived their goal as higher on abstractness whereas individuals in the concrete goal condition perceived their goal as higher on concreteness.

A closer look at the means also reveals that the mean score in the abstract condition was above the midpoint of the abstractness/concreteness scale ( $M_{\text{abstract}} = 4.45$ ) whereas the mean score in the concrete condition was below the midpoint of the abstractness/concreteness scale ( $M_{\text{concrete}} = 2.77$ ). Thus, the abstractness/concreteness manipulation was effective.

### **Testing H2a/H2b**

It has been stated in H2a that: The goal progress manipulation would lead to lesser goal incongruent activities when administered for an abstract goal as compared to when it is applied for a concrete goal.

It has been stated in H2b that: The goal commitment manipulation would lead to equal levels of goal incongruent activities irrespective of whether the goal being pursued is abstract or concrete.

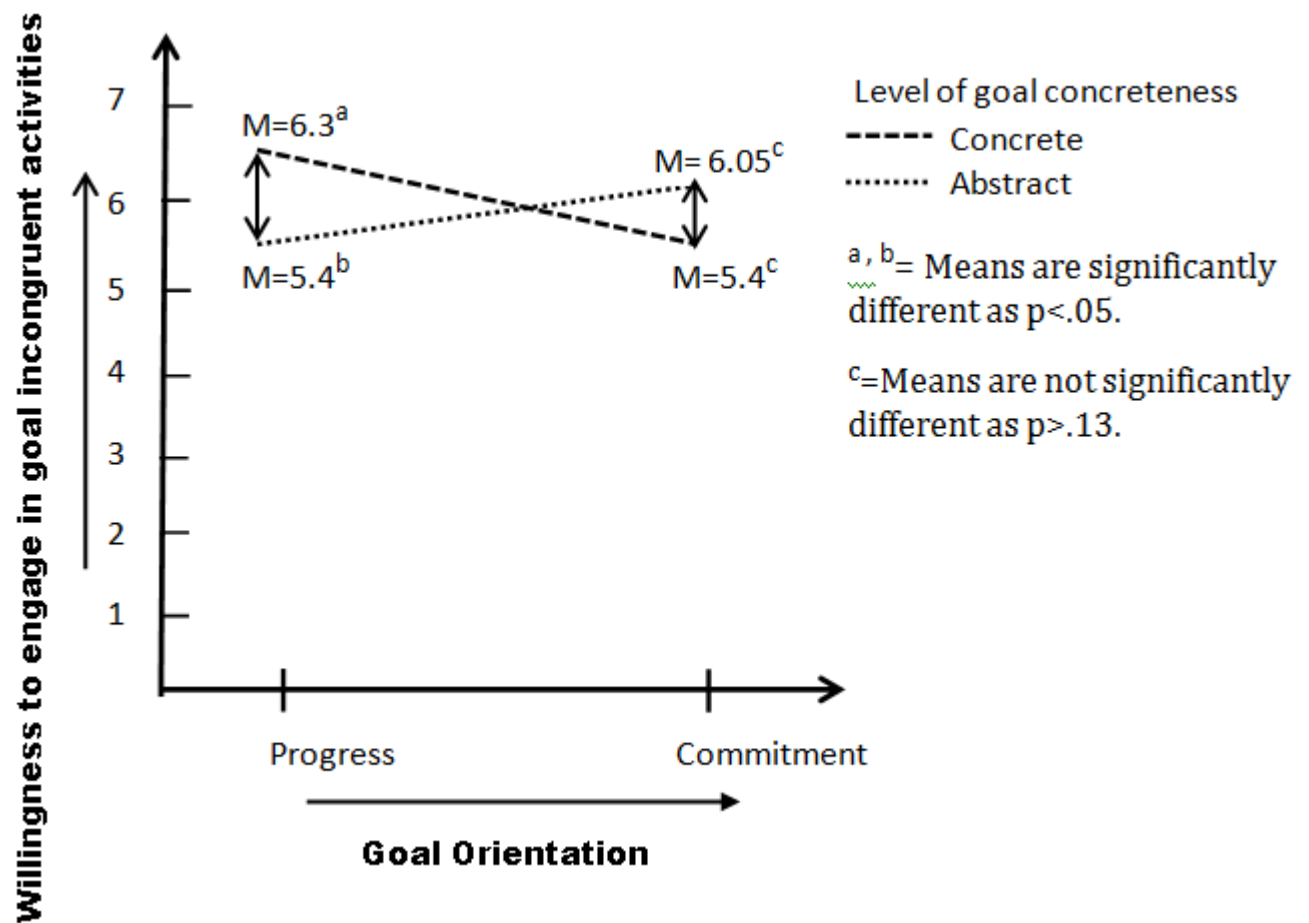
A two way ANOVA was subsequently performed with goal orientation and level of goal concreteness as the independent variables and the willingness to engage in goal incongruent activities as the dependent variable. A significant goal orientation\* level of



goal concreteness interaction was observed ( $F(1, 76) = 6.39, p < .05$ ). The interaction has been presented in Figure 10. No other effects were significant.

Contrast analysis revealed that when participants were primed with goal progress, the willingness to engage in goal incongruent activities was significantly greater when the goal being pursued was concrete as compared to when the goal being pursued was abstract ( $M_{\text{concrete}} = 6.3$  vs.  $M_{\text{abstract}} = 5.4, t(76) = 2.07, p < .05$ ). Thus, H2a was supported.

Contrast analysis further revealed that when participants were primed with goal commitment, there was no significant difference observed in participants' willingness to engage in goal incongruent activities when the goal being pursued was abstract or was concrete ( $M_{\text{concrete}} = 5.4$  vs.  $M_{\text{abstract}} = 6.05, t(76) = 1.5, p > .13$ ). Thus, H2b was supported.



**Figure 10: Interaction of Goal orientation\* Level of goal concreteness on willingness to engage in goal incongruent activities**

#### 4.4.3 Discussion

Summarily thus, goal progress does not produce goal incongruent behaviour at the same level when the level of concreteness of the focal goal that is being pursued is altered. An abstract goal e.g. exploring the wide horizon of knowledge has a low clarity as compared to a concrete goal e.g. scoring high grades in one's subjects. Consequently, goal progress prime can induce different feelings about the extent of progress achieved when the goal is abstract (vs. concrete). Since an abstract goal is broader and difficult to imagine as compared to a concrete goal, the same amount of work done would not give the same feeling to individuals in terms of goal progress when the goal is abstract (vs. concrete).

Since goal progress is a feeling of movement towards one's desired end point, it is hard to feel progress when the end point itself is not clear, which is the case when the goal is abstract. It is relatively easier to feel progress towards a concrete goal since the end point is clear. Thus, the results of Study 3 show us that, on being primed with goal progress, participants who were asked to pursue an abstract goal showed lesser willingness to engage in goal incongruent activities as compared to participants who were asked to pursue a concrete goal.

Since thoughts about goal commitment increases the value and expectancy of attainment of the focal goal, this should hold irrespective of whether the goal is abstract or concrete. Thus, the level of goal incongruent behaviour following a goal commitment prime should not differ irrespective of whether the goal is abstract or concrete. Thus, the results of Study 3 show us that on being primed with goal commitment, participants showed equivalent levels of willingness to engage in goal incongruent behaviour irrespective of whether the goal being pursued was abstract or concrete.

#### **4.4.4 Alternative Explanation**

An alternative explanation for the findings of Study 3 can be that an abstract goal primes individuals with abstract thoughts whereas a concrete goal primes individuals with concrete thoughts. Abstract thoughts are broad and decontextualized (Liberman & Trope, 1998; Vallacher & Wegner, 1987). Concrete thoughts are specific and contextualized (Liberman & Trope, 1998; Vallacher & Wegner, 1987). For example, an abstract representation of “conducting a study” can be “advancing science” rather than concrete representations like “testing a hypothesis” or as “collecting data” (Vallacher & Wegner, 1987).

It can be argued that for a student pursuing an abstract goal like expanding the wide horizon of knowledge, the act of a hard day's study would look insufficient when viewed in terms of goal progress due to abstract thinking induced by the abstract goal.

Abstract thinking would make the student believe that much more can be done with respect to goal achievement. Thus the student would not feel like taking breaks and doing something goal incongruent (e.g. hanging out with friends). Instead, the student might spend his time reading a science magazine or journal to enhance his knowledge.

It can also be argued that for a student pursuing a concrete goal like getting good grades in exams, the act of a hard day's study would look sufficient when viewed in terms of goal progress due to concrete thinking induced by the concrete goal. Concrete thinking would make the student believe that enough has been done with respect to goal achievement. Thus, the student would feel like taking breaks from studies and doing something goal incongruent (e.g. hanging out with friends)

Thus, an explanation can be posed that the effects observed for goal progress condition in Study 3 are not due to the abstract or concrete nature of the goal presented to participants but are rather due to the abstract/concrete thinking induced in them on exposure to those goals.

In order to rule out this explanation, the level of abstract/ concrete thinking induced by the abstract/ concrete goals was measured using a method adapted from Vallacher & Wegner (1989). Specifically, participants were presented with a set of ten activities accompanied by two descriptions of those activities. For each of the ten activities, one of the two descriptions accompanying the activity was abstract in nature and the other description accompanying the activity was concrete in nature. Participants had to select the description that they believe best describes the activity. These activities and their descriptions were presented to the participants in Study 3 after the presentation and description tasks of the abstract/ concrete goals, priming of goal progress/goal commitment, the subsequent measures of willingness to engage in goal incongruent activities and the manipulation check for the abstractness/ concreteness of the goals. The activities presented to participants and their descriptions have been listed in table 2.

Similar to Vallacher & Wegner (1989), each abstract description of an activity was scored as 1 and each concrete description was scored as 0. Scores were summed for each participant. Subsequently, the mean sum of the scores of the participants for the abstract and concrete goal conditions was compared. t-test comparisons showed that the mean sum of the scores for the abstract goal condition and the concrete goal condition were not significantly different ( $p > .9$ ). It can thus be said that the abstract goal in Study 3 (viz. exploring the wide horizon of knowledge that exists in this world) and the concrete goal (viz. scoring high grades in one's subjects) did not prime participants into abstract and concrete thinking mode. Thus, the alternative explanation that priming participants with abstract and concrete goals prime them with abstract and concrete thinking which result in the observed effects in the goal progress condition in Study 3 can be ruled out.

**Table 2: List of activities measuring abstract/concrete thinking in Study 3.**

<sup>1</sup>= abstract description of the corresponding activity, <sup>2</sup>= concrete description of the corresponding activity.

<b>i. Making a list:</b> a. Getting organized <sup>1</sup> b. Writing things down <sup>2</sup>	<b>vi. Paying the rent</b> a. Maintaining a place to live <sup>1</sup> b. Writing a check <sup>2</sup>
<b>ii. Washing clothes:</b> a. Removing odours from clothes <sup>1</sup> b. Putting clothes into the machine <sup>2</sup>	<b>vii. Locking a door</b> a. Putting a key in the lock <sup>2</sup> b. Securing the house <sup>1</sup>

<b>iii. Picking an apple</b> a. Getting something to eat <sup>1</sup> b. Pulling an apple off a branch <sup>2</sup>	<b>viii. Greeting someone</b> a. Saying hello <sup>2</sup> b. Showing friendliness <sup>1</sup>
<b>iv. Chopping down a tree</b> a. Wielding an axe <sup>2</sup> b. Getting firewood <sup>1</sup>	<b>ix. Travelling by car</b> a. Following a map <sup>2</sup> b. Seeing countryside <sup>1</sup>
<b>v. Cleaning the house</b> a. Showing one's cleanliness <sup>1</sup> b. Vacuuming the floor <sup>2</sup>	<b>x. Having a cavity filled</b> a. Protecting your teeth <sup>1</sup> b. Going to the dentist <sup>2</sup>

#### 4.5 STUDY 4: TEMPORAL DISTANCE OF FOCAL GOAL FROM PRESENT AS A POSSIBLE MODERATOR OF THE EFFECTS OF PROGRESS/COMMITMENT

##### 4.5.1 Method

The objective of Study 4 is to test H3a and H3b. It has been stated in H3a that: The goal progress manipulation would lead to lesser goal incongruent activities when administered for a near future goal as compared to when it is applied for a distant future goal.

It has been stated in H3b that: The goal commitment manipulation would lead to equal levels of goal incongruent activities irrespective of whether the goal being pursued is in the near future or in the distant future.

Thus, the independent variables in Study 4 were goal orientation and temporal distance of the focal goal from present. Goal orientation had two levels- progress and commitment. Temporal distance also had two levels - near future and distant future. The dependent variable in the study was participants' willingness to engage in goal incongruent activities.

Seventy nine business students from an Australian University participated in this study. Course credits were offered for participation in this study. A 2 (Goal orientation: progress vs. commitment)\* 2 (Temporal distance of focal goal: Distant vs. Near) between subjects experimental design was used for this study. In this university, each trimester has 14 weeks. The study was conducted between Week 4 and Week 6 across three such trimesters in the university. The students were allocated randomly across the different experimental conditions.

Similar to the previous studies, participants in the different experimental conditions were all administered with the high focal goal salience prime.

In the study, students were first primed with a distant future goal or a near future goal and alongside they were subject to the high focal goal salience prime alongside.

In the distant future goal priming condition, participants were asked to imagine a scenario related to an academic goal that needs to be achieved in the distant future and were asked to describe the steps needed to achieve the goal as a part of the high focal goal salience prime ("Imagine that you have a major project submission that is due at the end of the semester. You have to do well in your project in order to get a good grade in the subject. With the goal of doing well in the project, describe how working hard on the project will help you to do well in it.")

In the near future goal priming condition, participants were asked to imagine a scenario related to an academic goal that needs to be achieved in the near future and were asked to describe the steps needed to achieve the goal as a part of the high focal goal salience prime ("Imagine that you have a major project submission that is due a week from now. You have to do well in your project in order to get a good grade in the subject. With the goal of doing well in the project, describe how working hard on the project will help you to do well in it.")

Following this, a manipulation check measure on the temporal distance of the goals was responded to by the participants. The following measure was used in the distant future condition:

Referring back to the scenario that you have just imagined, how far do you think is the project submission deadline from today if you were to submit the project at the end of this semester?

The manipulation check measure in the near future condition was as follows:

Referring back to the scenario that you have just imagined, how far do you think is the project submission deadline from today if you were to submit the project a week from now?

The responses were measured on a scale of 1(near future) to 7(distant future). Thus, higher numbers on the scale indicated higher levels of perceived distance of the goal being pursued from its completion deadline and lower numbers on the scale indicated lower levels of perceived distance of the goal being pursued from its completion deadline.

Subsequently, participants were primed with goal progress or goal commitment. This method of priming was similar to that used in the previous studies. In accordance with Fishbach & Dhar (2005), this was done by using a progress scale and a commitment scale. Specifically, participants were asked to rate their feelings about goal



progress or goal commitment on scales of 1 to 7 after performing an activity related to their goal. Higher ratings on the scales would indicate stronger feelings regarding progress or commitment. The progress scales in the near future and distant future goal condition looked like: "Imagine that you have worked on the project for an entire day. Indicate on the following scale whether you would feel that you have made progress towards your goal of doing well in the project after having worked hard on the project for an entire day."

The commitment scales in the near future and distant future goal conditions looked like: "Imagine that you have worked on the project for an entire day. Indicate on the following scale whether you would feel that you are committed towards your goal of doing well in the project after having worked hard on the project for an entire day."

Subsequently, participants were asked to rate on scales of 1 to 7 their interest in doing activities that are incongruent with the goal of doing well academically. Higher numbers indicated higher interest in doing the activities.

With regards to the goal incongruent activities, the same set of four activities used in Studies 2/3 were presented to participants. The four activities were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Browsing through shopping websites that you like.
- (iv) Attending a sports event.

Like in Study 2 and Study 3, the activity “Browsing through shopping websites that you like” was dropped for the analysis. The three goal incongruent activities that were considered for the final analysis of the results of Study 4 were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

Like in the previous studies, the dependent measure for Study 4 was named as willingness to engage in goal incongruent activities. Also, similar to the previous studies, the highest rating from amongst the three goal incongruent activities viz. hanging out with friends that evening for relaxing and having fun, attending a social/cultural event (e.g. a music concert, a dance concert or a play), attending a sports event was taken as the goal incongruence measure for a participant in his/her designated experimental condition.

#### **4.5.2 Results**

##### **Manipulation Checks**

With regards to the manipulation check of the goal progress and goal commitment prime in this study, the following procedure was adopted:

The ratings on the progress scales across the distant future and near future goal conditions were collapsed to form the manipulation measure of progress in Study 4. Results showed that the mean score of participants on the progress scale was 4.87.

Comparison using t-test showed that this mean score was significantly different from 4[t(38) = 4.00,  $p < .05$ ]. Thus, the progress manipulation in Study 4 worked effectively.

The ratings on the commitment scales across the distant future and near future goal conditions were collapsed to form the manipulation measure of commitment in Study 4. Results showed that the mean score of participants on the commitment scale was 5.25. Comparison using t- test showed that this mean score was significantly different from 4[t(39) = 5.33,  $p < .05$ ] Thus, the commitment manipulation in Study 4 worked effectively.

With regard to the manipulation check measure for the temporal distance of the focal goal, it can be recollected that the following measure was used: How far do you think is the project submission deadline from today if you were to submit the project at the end of this semester?

Comparisons of the temporal distance manipulation scores across the distant future and near future goal conditions showed that the mean scores were significantly different ( $M_{\text{distant future}} = 4.65$  vs.  $M_{\text{near future}} = 3.02$ ,  $F(1, 77) = 26.38$ ,  $p < .05$ ). In other words, the value of the temporal distance manipulation check measure was significantly higher in the distant future condition as compared to in the near future goal condition. This shows that the individuals in the distant future condition perceived their goal as temporally far away whereas individuals in the concrete goal condition perceived their goal as temporally near.

A closer look at the means also reveals that the mean score in the distant future condition was above the midpoint of the temporal distance manipulation scale ( $M_{\text{distant future}} = 4.65$ ) whereas the mean score in the near future condition was below the midpoint of the temporal distance manipulation scale ( $M_{\text{near future}} = 3.02$ ). Thus, the temporal distance manipulation was effective.

### Testing H3a/H3b

It can be recollected that H3a has been stated as:

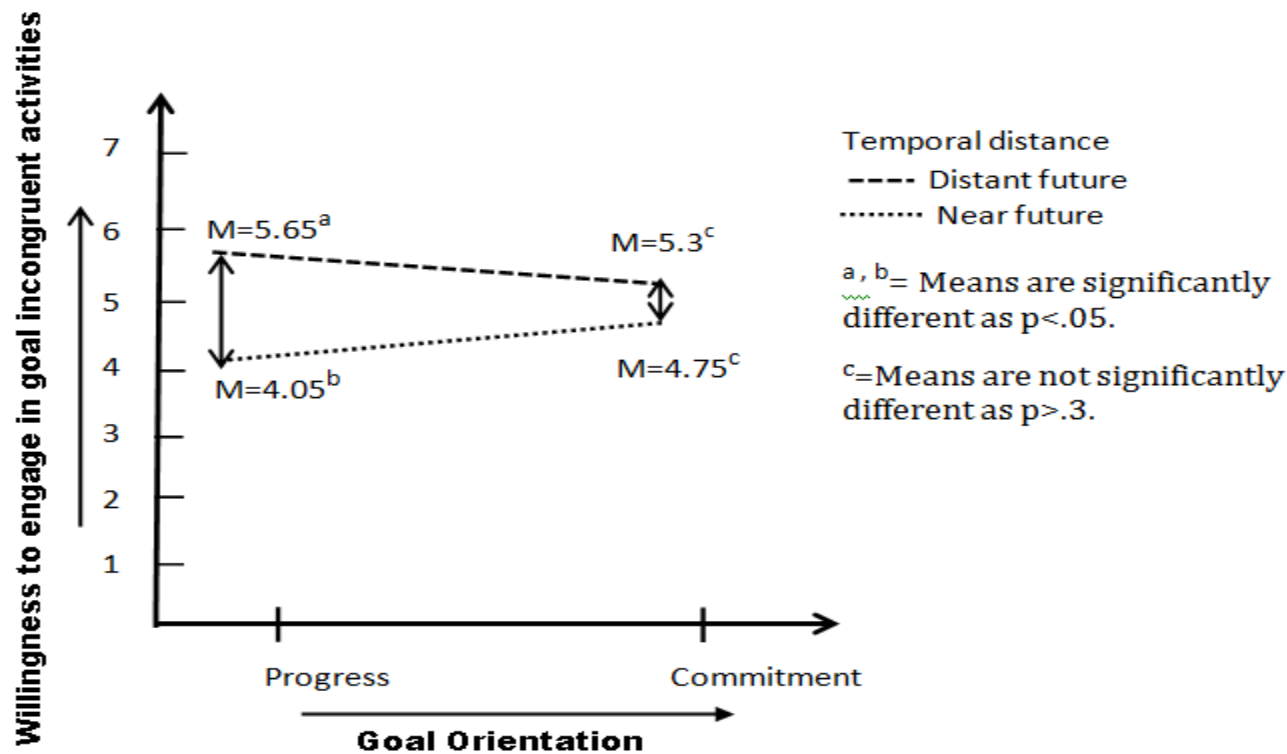
The goal progress manipulation would lead to lesser goal incongruent activities when administered for a near future goal as compared to when it is applied for a distant future goal.

H3b has been stated as: The goal commitment manipulation would lead to equal levels of goal incongruent activities irrespective of whether the goal being pursued is in the near future or in the distant future.

A two way ANOVA was subsequently performed with goal orientation and temporal distance of the focal goal from the present as the independent variables and the willingness to engage in goal incongruent activities as the dependent variable. The goal orientation\*temporal distance interaction was not significant ( $p > .05$ ).

However, similar to the method used in Zlatevska & Spence (2012), a visual inspection of the cell means suggest a different outcome (results shown in Figure 8). Contrast analysis revealed that when participants were primed with goal progress, the willingness to engage in goal incongruent activities was significantly greater when the goal being pursued was in the distant future as compared to when the goal being pursued was in the near future ( $M_{\text{distant future}} = 5.65$  vs.  $M_{\text{near future}} = 4.05$ ,  $t(75) = 2.95$ ,  $p < .05$ ). Thus, H3a was supported.

Contrast analysis further revealed that when participants were primed with goal commitment, there was no significant difference observed in participants' willingness to engage in goal incongruent activities when the goal being pursued was in the distant future or was in the near future ( $M_{\text{distant future}} = 5.3$  vs.  $M_{\text{near future}} = 4.75$ ,  $t(75) = 1.03$ ,  $p > .30$ ). Thus, H3b was supported. The results have been displayed in Figure 11.



**Figure 11: Interaction of Goal orientation\* Temporal distance on willingness to engage in goal incongruent activities**

A main effect of temporal distance of focal goal on willingness to engage in goal incongruent activities was also observed [ $F(1,79) = 7.99$ ,  $p < .05$ ] which indicates that as temporal distance of focal goal from present increased, participants were more willing to engage in activities incongruent with their focal goal.

#### 4.5.3 Discussion

Summarily, goal progress does not produce goal incongruent behaviour at the same level when the temporal distance of the focal goal that is being pursued is altered.

A distant future goal (e.g. a project submission due at the end of the semester) decreases the salience of possible obstacles to goal attainment that may arise in future (e.g. submission deadlines for other projects and assignments, possibility of falling sick etc.). A near future goal increases the salience of possible problems associated with goal

attainment that may arise in future (e.g. submission deadlines for other projects and assignments, possibility of falling sick etc.).

Thus, the results of Study 4 show that on being primed with goal progress, participants who were asked to pursue the goal of doing well in a project due at the end of the semester show higher levels of willingness to engage in goal incongruent behaviour as compared to participants who were asked to pursue the goal of doing well in a project due at the end of next week.

Since thoughts about goal commitment increases the value and expectancy of attainment of the focal goal, this should hold irrespective of whether the goal being pursued is in the distant future or in the near future. Thus, the level of goal incongruent behaviour following a goal commitment prime should not differ irrespective of whether the goal is in the distant future or in the near future.

Thus, the results of Study 4 show us that on being primed with goal commitment, participants who were asked to pursue the goal of doing well in a project due at the end of the semester show equivalent levels of willingness to engage in goal incongruent behaviour as compared to participants who were asked to pursue the goal of doing well in a project due at the end of next week.

An interesting point can be discussed based on the results of Study 4. The results of Zhang, Fishbach & Dhar (2007) indicate that individuals may have an orientation to think about goal commitment when the goal is the distant future and to think about goal progress when the goal is in the near future. The authors suggest that without being directly primed by progress or commitment, thinking about distant future goals should signal goal commitment whereas thinking about near future goals should signal goal progress. Based on the results of the current study however it can be said that, the use of distant future and near future goals as a cue for goal progress and goal commitment may not be reliable.

If, based on Zhang, Fishbach & Dhar (2007), individuals think about progress (commitment) when the goal is in the near future (distant future), then priming them with goal progress should produce more goal incongruent behaviour in the near future as compared to in the distant future. In other words, if near future signals progress and distant future signals commitment, then application of progress prime for a near future goal should result in greater levels of goal incongruent behaviour as compared to the application of a progress prime for a distant future goal. The results of Study 4 show obverse findings, i.e., priming individuals with goal progress leads to more goal incongruent behaviour if the goal is in the distant future as compared to if the goal is in the near future. It can thus be concluded that temporal distance of focal goal may not be a reliable cue for signalling goal progress or goal commitment.

### ***4.5.4 Process Level Explanation of the Findings in Study 4***

A process level testing of the results of Study 4 was done to assess if a distant future goal primes individuals with abstract thoughts whereas if a near future goal primes individuals with concrete thoughts.

For the purpose of the current work, it is construed for Hypothesis 4a that a distant future goal promotes abstract thinking and decreases the salience of possible obstacles to goal attainment that may arise in future. A near future goal promotes concrete thinking and increases the salience of possible obstacles to goal attainment that may arise if the goal is not completed soon.

It was therefore expected that a difference in the level of abstract or concrete thinking would be observed between individuals assigned to the distant future and near future goal conditions in Study 4.

If there is no difference in the level of abstract/ concrete thinking produced by the distant future or near future goals, then it can be presumed that the different levels of salience of possible obstacles to goal attainment in the distant future and near future goal conditions is not necessarily caused by abstract/ concrete thinking and that abstract/ concrete thinking is not a precursor to obtain the results of Study 4.

The method used to measure abstract/ concrete thinking induced by the distant future/near future goals was similar to that used in Study 3. Specifically, participants were presented with a set of ten activities accompanied by two descriptions of those activities. For each of the ten activities, one of the two descriptions accompanying the activity was abstract in nature and the other description accompanying the activity was concrete in nature. Participants had to select the description that they believe best describes the activity. These activities and their descriptions were presented to the participants in Study 4 after the presentation and description tasks of the distant future/ near future goals, priming of goal progress/goal commitment, and the subsequent measures of willingness to engage in goal incongruent activities and the manipulation check for the distant future/near future goals. The activities presented to participants and their descriptions have already been presented in Table 1.

Similar to Vallacher & Wegner (1989), each abstract description of an activity was scored as 1 and each concrete description was scored as 0. Scores were summed for each participant. Subsequently, the mean sums of the scores of the participants for the abstract and concrete goal conditions were compared. Three participants in Study 4 did not respond to all the questions on the Vallacher & Wegner (1989) task. Comparisons using F-tests showed that that the mean sum of the scores for the distant future goal condition ( $M = 6.4$ ) and the near future goal condition ( $M = 5.7$ ) were not significantly different ( $p = .14$ ),.

Thus, it can be concluded that even though temporal distance moderates the divergent effects of goal progress and goal commitment, the moderation is not caused



due to the different levels of abstract/ concrete thinking induced by the distant future or near future goals.

#### **4.6 STUDY 5A: STAGES OF GOAL COMPLETION AS A POSSIBLE MODERATOR OF THE EFFECTS OF GOAL PROGRESS**

##### **4.6.1 Method**

The objective of Study 5A is to test H4a. It has been stated in H4a that: For individuals primed with goal progress, stages of goal completion will have no effect on individuals' level of willingness to engage in goal incongruent behaviour.

This study was conducted with individuals primed with goal progress. The study manipulated the level of goal completion and studied the level of goal incongruence at each stage of goal completion.

Fifty eight business students from an Australian University participated in this study. Course credits were offered for participation in the study.

Similar to the previous studies, an academic context was chosen for the study. Further, like in previous studies, participants were subject to the high focal goal salience prime. This was administered at the beginning of the study in the following way: Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

Subsequently, participants were subject to the level of goal completion prime and the goal progress prime simultaneously.

The level of goal completion prime refers to manipulating the percentage of goal completion that participants have achieved. There were three levels of goal completion primes in this study (20% completion of the goal, 50% completion of the goal, 80% completion of the goal). Participants were randomly allocated to the different goal completion prime conditions. These primes were administered in the following ways:

- “Imagine that you have studied for an entire day and have completed reading two out of the ten chapters from the text book. Indicate on the following scale whether you would feel that you have made progress towards your exam preparation after having completed reading two out of the ten chapters” - *this was the 20% goal completion prime administered along with the goal progress manipulation.* Participants responded to this measure on a scale of 1(= not at all) and 7(= a lot) with higher numbers indicating higher perceptions of progress.
- “Imagine that you have studied for an entire day and have completed reading five out of the ten chapters from the text book. Indicate on the following scale whether you would feel that you have made progress towards your exam preparation after having completed reading five out of the ten chapters” - *this was the 50% goal completion prime with the goal progress manipulation.* Participants responded to this measure on a scale of 1(= not at all) and 7(= a lot) with higher numbers indicating higher perceptions of progress.
- “Imagine that you have studied for an entire day and have completed reading eight out of the ten chapters from the text book. Indicate on the following scale whether you would feel that you have made progress towards your exam preparation after having completed reading eight out of the ten chapters” - *this*

*was the 80% goal completion prime with the goal progress manipulation.* Participants responded to this measure on a scale of 1(= not at all) and 7(= a lot) with higher numbers indicating higher perceptions of progress.

Subsequently, participants were asked to rate on scales of 1 to 7 their willingness to engage in activities that are incongruent with their goal of doing well academically. Higher numbers indicated higher levels of willingness in doing the activities.

With regards to the goal incongruent activities, the same set of four activities used in studies 2/3/4 were presented to participants. The four activities were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Browsing through shopping websites that you like.
- (iv) Attending a sports event.

Like in the previous studies, the activity “Browsing through shopping websites that you like” was dropped for the analysis. The three goal incongruent activities that were considered for the final analysis of the results of Study 5A were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

(iii) Attending a sports event.

Like in the previous studies, the dependent measure for Study 5A was named as willingness to engage in goal incongruent activities. The highest rating from amongst the three goal incongruent activities viz “Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun)”, “Attending a social/cultural event (e.g. a music concert, a dance concert or a play)”, “Attending a sports event” was taken as the goal incongruence measure for a participant in his/her designated experimental condition.

#### **4.6.2 Results**

##### **Manipulation Checks**

With regards to the manipulation check of the high goal salience prime in this study, the procedure adopted was similar to the previous studies: It was observed whether participants did actually describe what comes to their mind when they need to read ten chapters from their textbook in order to prepare for an exam. It was observed that the participants did write the descriptions which showed that the high goal salience prime worked.

With regards to the manipulation check of the goal progress prime in this study, the following procedure was adopted:

Participants’ responses to the progress scale across the three levels of goal completion -20%/50%/80% - were collapsed to observe if the goal progress priming was successful. It was construed that if the progress manipulation worked, the mean score of participants on the progress scale would be 4 or above. Results showed that the mean score of participants on the progress scale was 4.62. Comparison using t - test

showed that this mean score was significantly different from 4 [ $t(57) = 3.31, p < .05$ ]. Thus, the progress manipulation in Study 5A worked effectively.

With regards to the manipulation checks of the level of goal completion prime, the following procedure was adopted:

At each level of goal completion, participants were presented with a 10 cm scale and were asked to simply indicate on the scale how much of the work they think they have completed. The scale had two end points marked as not at all completed and fully completed with higher values on the scale indicating higher level of work completed. The scale had no numbers on it and participants had to estimate the amount of work they think they have completed by simply putting a circle on a dotted straight line.

Comparisons using one way ANOVA showed that as the level of goal completion increased the estimation of work done by participants also increased ( $M_{20\%} = 3.51$  cm vs.  $M_{50\%} = 4.90$  cm vs.  $M_{80\%} = 6.80$  cm,  $F(2,55) = 20.88, p < .05$ ).

Thus the level of goal completion manipulation in Study 5A worked effectively.

### **Testing Hypothesis H4a**

A one way ANOVA with level of goal completion as the independent variable and willingness to engage in goal incongruent activities as the dependent variable showed that mean scores on the willingness to engage in goal incongruent activities did not differ across the different levels of goal completion ( $M_{20\%} = 5$  vs.  $M_{50\%} = 5.15$  vs.  $M_{80\%} = 5.21, p > .93$ ), thus clearly indicating the effect of goal progress on individuals' willingness to engage in goal incongruent activities do not change based on level of goal completion. Thus, Hypothesis 4a is supported.

### **4.6.3 Discussion**

Summarily thus, goal progress has equal effects on individuals' tendencies to do goal incongruent behaviour irrespective of the level of goal completion. The results are different from studies like Koo & Fishbach (2012). For example, Koo & Fishbach (2012) clearly indicate that if one focuses on 20% goal completion, since it is a small area (indicating low progress), goal incongruent behaviour should not be promoted; whereas if one focuses on 80% goal completion, since it is a large area (indicating high progress), goal incongruent behaviour should be promoted. In Study 5A, the focus of participants was always on the level of work completed- thus based on Koo & Fishbach (2012), 80% goal completion should have promoted more goal incongruent behaviour than 20 % goal completion. However, the results indicate that irrespective of focus on small or large area of goal completion, goal progress has equal effects in terms of promoting willingness to engage in goal incongruent behaviour at all stages of goal completion which is evident from the fact that the means at all of those stages are above 5. Thus, the conclusion is that informing individuals about the level of goal completion does not affect goal progress and that goal progress prime produces equal levels of goal incongruent behaviour irrespective of the level of goal completion. This reiterates the thinking that goal progress is a priming issue and not an issue related to actual level of goal completion.

## **4.7 STUDY 5B: STAGES OF GOAL COMPLETION AS A POSSIBLE MODERATOR OF THE EFFECT OF GOAL COMMITMENT**

### **4.7.1 METHOD**

The objective of Study 5B is to test H4b. It has been stated in H4b that: For individuals primed with goal commitment, stages of goal completion will have no effect on individuals' level of willingness to engage in goal incongruent behaviour.

This study was conducted with individuals primed with goal commitment. The study manipulated the level of goal completion and studied the level of goal

incongruence at each stage of goal completion for individuals primed with goal commitment.

Fifty eight business students from an Australian University participated in this study. Course credits were offered for participation in the study.

Similar to the previous studies, an academic context was chosen for the study. Further, like in the previous studies, participants were subject to the high focal goal salience prime. This was administered at the beginning of the study in the following way: Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

Subsequently, participants were subject to the level of goal completion prime and the goal commitment prime simultaneously.

The level of goal completion prime refers to manipulating the percentage of goal completion that participants have achieved. There were three levels of goal completion primes in this study (20% completion of the goal, 50% completion of the goal, 80% completion of the goal). Participants were randomly allocated to the different goal completion prime conditions. These primes were administered in the following ways:

- “Imagine that you have studied for an entire day and have completed reading two out of the ten chapters from the text book. Indicate on the following scale whether you would feel that you are committed towards your exam preparation after having completed reading two out of the ten chapters” - *this was the 20% goal completion prime with the goal commitment manipulation.* Participants

responded to this measure on a scale of 1(= not at all) and 7(= a lot) with higher numbers indicating there is some feeling about commitment.

- “Imagine that you have studied for an entire day and have completed reading five out of the ten chapters from the text book. Indicate on the following scale whether you would feel that you are committed towards your exam preparation after having completed reading five out of the ten chapters” - *this was the 50% goal completion prime with the goal commitment manipulation*. Participants responded to this measure on a scale of 1(= not at all) and 7(= a lot) with higher numbers indicating there is some feeling about commitment.
- “Imagine that you have studied for an entire day and have completed reading eight out of the ten chapters from the text book. Indicate on the following scale whether you would feel that you are committed towards your exam preparation after having completed reading eight out of the ten chapters” - *this was the 80% goal completion prime with the goal commitment manipulation*. Participants responded to this measure on a scale of 1(= not at all) and 7(= a lot) with higher numbers indicating there is some feeling about commitment.

Subsequently, participants were asked to rate on scales of 1 to 7 their willingness in doing activities that are incongruent with their goal of doing well academically. Higher numbers indicated higher levels of willingness in doing the activities.

With regards to the goal incongruent activities, the same set of four activities used in Study 2/3/4 was presented to participants. The four activities were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).



- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Browsing through shopping websites that you like.
- (iv) Attending a sports event.

Like in the previous studies, the activity “Browsing through shopping websites that you like” was dropped for the analysis. The three goal incongruent activities that were considered for the final analysis of the results of Study 5B were:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

Like in the previous studies, the dependent measure for Study 5B was named as willingness to engage in goal incongruent activities. The highest rating from amongst the three goal incongruent activities viz. hanging out with friends that evening for relaxing and having fun, attending a social/cultural event (e.g. a music concert, a dance concert or a play), attending a sports event was taken as the goal incongruence measure for a participant in his/her designated experimental condition.

#### **4.7.2 Results**

##### **Manipulation Checks**

With regards to the manipulation check of the high goal salience prime in this study, the following procedure was adopted:

It was observed if participants did describe what comes to their mind when they think about preparing for an exam by reading ten chapters from a text book. It was observed that the participants did write the descriptions which showed that the high goal salience prime worked.

With regards to the manipulation check of the goal commitment prime in this study, the following procedure was adopted:

Participants' responses to the measures across each of the different levels of goal completion - 20%/50%/80% - were collapsed to observe if the goal commitment priming was successful. It was construed that if the commitment manipulation worked, the mean score of participants on the commitment scale would be 4 or above. Results showed that the mean score of participants on the commitment scale was 4. Thus, the commitment manipulation in Study 5B worked effectively though it was weak. A score of 4 on the commitment scale shows that there is a moderate level of feeling of commitment in participants as a result of our commitment prime.

With regard to the manipulation checks of the level of goal completion prime, the procedure adopted was similar to Study 5A:

At each level of goal completion, participants were presented with a 10 cm scale and were asked to simply indicate on the scale how much of the work they think they have completed. The scale had two end points marked as not at all completed and fully completed with higher values on the scale indicating higher level of work completed. The scale had no numbers on it and participants had to estimate the amount of work they think they have completed by simply putting a circle on a dotted straight line. One participant did not respond to the manipulation check question for level of goal completion.

Comparisons using One Way ANOVA showed that as the level of goal completion increased the estimation of work done by participants also increased ( $M_{20\%} = 2.85$  cm

vs.  $M_{50\%} = 5.00$  cm vs.  $M_{80\%} = 6.12$  cm,  $F(2, 54) = 12.9$ ,  $p < .05$ ). Thus, the goal completion manipulation in Study 5B worked effectively.

### Testing H4b

It can be recollected that Hypothesis 4b was stated as: For individuals primed with goal commitment, stages of goal completion will have no effect on individuals' level of willingness to engage in goal incongruent behaviour.

A one way ANOVA with level of goal completion as the independent variable and willingness to engage in goal incongruent activities as the dependent variable showed that mean scores on the willingness to engage in goal incongruent activities did not differ across the different levels of goal completion ( $M_{20\%} = 4.84$  vs.  $M_{50\%} = 4.8$  vs.  $M_{80\%} = 4.63$ ,  $p > .93$ ), thus clearly indicating that level of goal completion cannot alter the effects of commitment on individuals' willingness to engage in goal incongruent behaviour.

Observation of the means indicate that the effect of goal commitment cannot be judged as absolute, in the sense, goal commitment cannot guarantee preventing individuals from doing goal incongruent activities. It can at best reduce the likelihood of doing goal incongruent activities considering that the means at the different stages of goal completion are all below 5.

### 4.7.3 Discussion

Summarily thus, goal commitment has equal effects on individuals' willingness to engage in goal incongruent behaviour irrespective of the level of goal completion. This supports the belief that commitment is a priming issue and not an issue related to actual level of goal completion that does not alter based on the stages of goal completion.

#### 4.8 FREQUENCY DISTRIBUTIONS FOR THE DEPENDENT VARIABLE ACROSS THE DIFFERENT STUDIES

The main dependent variable across all six studies was the willingness of participants to engage in goal incongruent activities. The frequency distributions for the dependent variable across all the six studies are given below.

In Study 1 the main dependent variable was willingness to engage in goal incongruent activities which was based on participants' responses on the following three activities. Basically, the highest response from amongst the following three activities was selected:

- (i) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).
- (ii) Watching your favourite programs on television or on online channels like You Tube that evening.
- (iii) Playing on your PC for a few hours that evening, such as playing video games or chatting on Facebook with friends?

The responses were measured on a scale from 1 (= not at all likely) to 7(= very likely). The frequency distributions for the dependent variable across the four conditions in Study 1 were as follows:

##### **Salience = High, Goal orientation = Progress - Study 1**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
5.00	2	8.7
6.00	11	47.8
7.00	10	43.5
Total	23	100.0

**Salience = High, Goal orientation = Commitment - Study 1**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
2.00	1	3.8
4.00	1	3.8
5.00	6	23.1
6.00	10	38.5
7.00	8	30.8
Total	26	100.0

**Salience = Low, Goal orientation = Progress - Study 1**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
4.00	1	4.2
5.00	5	20.8
6.00	11	45.8
7.00	7	29.2
Total	24	100.0

**Salience = Low, Goal orientation = Commitment - Study 1**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
5.00	3	15.0
6.00	9	45.0
7.00	8	40.0
Total	20	100.0

In Study 2, the main dependent variable was willingness to engage in goal incongruent activities which was based on participants' responses on the following three activities. Basically, the highest response from amongst the following three activities was selected:

- (i) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing , having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

The responses were measured on a scale from 1 (= not at all likely) to 7(= very likely). The frequency distributions for the dependent variable across the two manipulations used in Study 2- goal progress and goal commitment (please note that promotion- and prevention- focus were measured in Study 2 based on the responses of participants to the regulatory focus measures) were as follows:

**Goal orientation = Progress – Study 2**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
3.00	1	2.2
4.00	5	11.1
5.00	8	17.8
6.00	15	33.3
7.00	16	35.6
Total	45	100.0

**Goal orientation = Commitment - Study 2**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
1.00	1	2.1
2.00	1	2.1
3.00	1	2.1
4.00	5	10.6
5.00	16	34.0
6.00	14	29.8
7.00	9	19.1
Total	47	100.0

In Study 3, the main dependent variable was willingness to engage in goal incongruent activities which was based on participants' responses on the following three activities. Basically, the highest response from amongst the following three activities was selected:

- (i) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

The responses were measured on a scale from 1 (= not at all likely) to 7(= very likely). The frequency distributions for the dependent variable across the four conditions in Study 3 were as follows:

**Goal orientation = Progress, Level of goal concreteness = Concrete - Study 3**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
4.00	1	5.0
5.00	3	15.0
6.00	5	25.0
7.00	11	55.0
Total	20	100.0

**Goal orientation = Commitment, Level of goal concreteness = Abstract - Study 3**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
2.00	2	10.0
3.00	1	5.0
4.00	1	5.0
5.00	4	20.0
6.00	7	35.0
7.00	5	25.0
Total	20	100.0

**Goal orientation = Commitment, Level of goal concreteness = Concrete -Study 3**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
1.00	1	5.0
2.00	1	5.0
3.00	1	5.0
4.00	2	10.0
5.00	4	20.0
6.00	3	15.0
7.00	8	40.0
Total	20	100.0

**Goal orientation = Commitment, Level of goal concreteness = Concrete -Study 3**

Willingness to engage in goal incongruent activities		
Responses	Frequency	Percent
3.00	1	5.0
5.00	2	10.0
6.00	11	55.0
7.00	6	30.0
Total	20	100.0

In Study 4, the main dependent variable was willingness to engage in goal incongruent activities which was based on participants' responses on the following three activities. Basically, the highest response from amongst the following three activities was selected:

- (i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, having good food, relaxing , having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

The responses were measured on a scale from 1 (= not at all likely) to 7(= very likely). The frequency distributions for the dependent variable across the four conditions in Study 4 were as follows:

**Goal Orientation = Progress, Temporal Distance = Near Future - Study 4**

Willingness to engage in goal incongruent activities		
Responses	Frequency	Percent
1.00	1	5.3
2.00	7	36.8
3.00	2	10.5
6.00	7	36.8
7.00	2	10.5
Total	19	100.0



**Goal Orientation = Progress, Temporal Distance = Distant Future - Study 4**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
3.00	1	5.0
4.00	2	10.0
5.00	7	35.0
6.00	3	15.0
7.00	7	35.0
Total	20	100.0

**Goal Orientation = Commitment, Temporal Distance = Near Future - Study 4**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
2.00	4	20.0
3.00	1	5.0
4.00	3	15.0
5.00	2	10.0
6.00	8	40.0
7.00	2	10.0
Total	20	100.0

**Goal Orientation = Commitment, Temporal Distance = Distant Future - Study 4**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
2.00	2	10.0
4.00	3	15.0
5.00	4	20.0
6.00	7	35.0
7.00	4	20.0
Total	20	100.0

In Study 5A, the main dependent variable was willingness to engage in goal incongruent activities which was based on participants' responses on the following three activities. Basically, the highest response from amongst the following three activities was selected:

- (i) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having

fun).

- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).
- (iii) Attending a sports event.

The responses were measured on a scale from 1 (= not at all likely) to 7(= very likely). In Study 5A, all individuals were primed with goal progress. The level of goal completion differed across study conditions. The frequency distributions for the dependent variable across the three levels of goal completion in Study 5A were :

**Level of goal completion = 20% goal completion – Study 5A**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
1.00	2	10.5
2.00	2	10.5
5.00	4	21.1
6.00	8	42.1
7.00	3	15.8
Total	19	100.0

**Level of goal completion = 50% goal completion – Study 5A**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
2.00	1	5.0
3.00	1	5.0
4.00	4	20.0
5.00	5	25.0
6.00	6	30.0
7.00	3	15.0
Total	20	100.0

**Level of goal completion = 80% goal completion – Study 5A**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
1.00	2	10.5
2.00	1	5.3
5.00	6	31.6
6.00	5	26.3
7.00	5	26.3
Total	19	100.0

In Study 5B, the main dependent variable was willingness to engage in goal incongruent activities which was based on the following three activities:

- (i) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).
- (ii) Attending a social/cultural event (e.g. a music concert, a dance concert or play).
- (iii) Attending a sports event.

The responses were measured on a scale from 1 (= not at all likely) to 7(= very likely). In Study 5B, all individuals were primed with goal commitment. The level of goal completion differed across study conditions. The frequency distributions for the dependent variable across the three levels of goal completion in Study 5B were as follows:

**Level of goal completion = 20% goal completion – Study 5B**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
1.00	2	10.5
2.00	1	5.3
3.00	1	5.3
4.00	5	26.3
5.00	1	5.3
6.00	3	15.8
7.00	6	31.6
Total	19	100.0

**Level of goal completion = 50% goal completion - Study 5B**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
2.00	2	10.0
3.00	4	20.0
4.00	2	10.0
5.00	3	15.0
6.00	6	30.0
7.00	3	15.0
Total	20	100.0

**Level of goal completion = 80% goal completion – Study 5B**

**Willingness to engage in goal incongruent activities**

Responses	Frequency	Percent
2.00	4	21.1
3.00	3	15.8
4.00	2	10.5
5.00	1	5.3
6.00	5	26.3
7.00	4	21.1
Total	19	100.0

The frequency distributions of the main dependent variable across all conditions that were used in the six studies that were conducted for the current research show that there is a ceiling effect, in the sense across almost all conditions majority of the participants' responses on the dependent measures were greater than or equal to five.

Some may argue that the findings of the current research are confounded with the inherent preference of the participants towards the goal incongruent activities that were used as stimulus in the different studies in this research i.e. the results of the current research have been obtained not because of the treatments but because of the fact that participants like doing these activities. The counter argument to such a presumption would be that:

(i) There is no reason then to assume that the inherent liking of the participants would differ across the different treatment conditions in the studies since the experiments were randomized. If indeed the treatments were not having any effect on the responses of participants, then the responses of participants should not have differed across conditions. Since they do (e.g. in Studies 1,2,3,4), it just shows that the treatments were producing the desired effects and it also shows that the inherent liking of the participants towards these activities did not confound the findings of the current research.

(ii) In the hypotheses proposed in the current research ( e.g. H1a/H1b....) , it was predicted that there would be significant difference in the dependent measures across

different study conditions. There was no prediction made in relation with the absolute measures that the dependent variable could assume. Thus, the findings of the current research hold irrespective of the absolute values of the dependent measures across the conditions.

(iii) Reflecting across the absolute measures, it can be said that goal commitment cannot guarantee goal congruent activities. At the best, it can reduce one's likelihood to do a goal incongruent activity as compared to goal progress.

#### **4.9 OBSERVATIONS FROM THE FIELD SUGGESTING HOW THE TASK WAS UNDERSTOOD AND WHETHER THE MANIPULATIONS WORKED AS EXPECTED**

In Study 1, there were two sets of manipulations- one was for high salience vs. low salience and another one was for goal progress vs. goal commitment.

In the high salience condition, participants were asked to describe how studying hard regularly helped one to achieve his/her academic goal as compared to not studying hard regularly (this description task was not there in the low salience condition).

The goal progress/goal commitment manipulations were in lines with Fishbach & Dhar (2005) and did not have any description tasks. The manipulations as well as the manipulation checks for goal progress/commitment have already been described in the thesis (Please refer to the Results section in Study 1).

In the high salience condition, participants' description tasks clearly show that they had understood the task well. A few examples are given below:

"If you study hard regularly, you will not need to worry so much right

before the exam as your brain has already grasped the information, making it easier to take the information”. If you don’t study regularly, you will get stressed.”

“The principles of putting regular work and having it pay off in the end apply here in as well. It is a lot more likely that one who studies hard regularly will be a lot more academically successful than one who does not.”

“Studying hard regularly helps your knowledge of the subject sink in. Every week, I summarize the lectures, tutes and readings into one document. When reviewing, it makes it easier to study. Studying regularly instills discipline and the more study you do, the better your academic grades will be.”

The above descriptions clearly show that participants understood their task well and that the high goal salience manipulation was effective in Study 1.

In Study 2, participants were primed with either goal progress or goal commitment and in addition to this, all of them were required to do a description task- describing how studying hard regularly (\* vs. not studying hard regularly) can help them to achieve their academic goals.

Participants’ descriptions clearly show that they had read and understood the task well. A few examples are given below:

“Studying hard regularly can improve your grades and help you to do well academically. It allows you to be more prepared for the material on the mid-term and during class discussion. Not studying hard regularly will leave you less prepared for the information you are covering in class.”

“Studying hard means you keep on top of the workload and you take time to learn things you do not understand. Not studying as much means less knowledge is going in.”

“Studying hard regularly helps to retain information and understand the concepts more in depth therefore giving advantage in the particular course”.

In Study 3, there were two sets of manipulations- one was for level of goal concreteness- concrete vs. abstract goal and another one was for goal orientation- goal progress vs. goal commitment.

The goal concreteness manipulations had description tasks- participants had to describe how studying hard regularly (as compared to not studying hard regularly) could help them to achieve an abstract goal ( exploring the wide horizon of knowledge that exists in this world) or a concrete goal ( getting good grades in exams).

The goal progress/goal commitment manipulations were in lines with Fishbach & Dhar (2005) and did not have any description tasks. The manipulations as well as the manipulation checks for goal progress/commitment have already been described in the thesis (in the Results section in Study 3).

The manipulation checks for goal concreteness have also been presented in the thesis (in the Results section in Study 3).

In addition to the manipulation checks for the concrete and abstract goal conditions, the description tasks related to the concrete vs. abstract goal manipulations also showed that the participants had read and understood the task well and that the manipulations worked effectively. A few examples of the participants’ descriptions related to the concrete goal (getting good grades in exam) manipulation are given below:

“Studying hard regularly enhances all the new information to stick in to your brain so that you are constantly refreshing yourself. This means you can develop a

deeper understanding of the context and you can use higher analytical skills. Therefore, you are able to go into a deeper level of analytics in your exams and assignments. On the other hand, if you don't study regularly, you can only learn things to a somewhat superficial level and all the contents will not be remembered in the long term."

"Studying hard regularly helps one keep pace with the course material and reduces the need to over-exert oneself in the days leading up to the exams. It also allows one to get any doubts clarified well in advance of the exams and allows for appropriate use of the knowledge gained with respect to assignments and projects."

"Studying hard can help one to achieve higher and better results in exams as it is easy to follow a course when studying regularly and knowing about what the lecturer is talking about during the semester instead of waiting until the end of the semester to start studying."

A few examples of the participants' descriptions related to the abstract goal (exploring the wide horizon of knowledge that exists in this world) manipulation are given below:

"Studying hard instills a work ethics and drive that one would use to stay motivated and follow through with exploring all the knowledge. It makes people hungry to learn more and fill the curiosity".

"I think studying hard regularly can help one to explore the wide horizon of knowledge that is: prepare the information- read book and listen to some video and get some suggestion from professional person- do some research and review knowledge."

"Studying hard regularly will result in a constant intake of knowledge which I feel will help explore a wide horizon of knowledge because a person will end up looking at more information over time as compared to a person who does not study hard regularly."

In Study 4, there were two sets of manipulations- one was for temporal distance



of focal goal from present- distant vs. near future and another one was for goal orientation- goal progress vs. goal commitment.

The goal concreteness manipulations had description tasks- participants had to describe the things that they would need to do in order to achieve a good grade in an important project that is due at the end of the semester (distant future) or at the beginning of the semester (near future).

The goal progress/goal commitment manipulations were in lines with Fishbach & Dhar (2005) and did not have any description tasks. The manipulations for goal progress/commitment as well as the manipulation checks have already been described in the thesis (in the Results section in Study 4).

The manipulation checks for temporal distance have also been presented in the thesis (in the Results section in Study 4).

In addition to the manipulation checks for the distant future and near future goal conditions, the description tasks related to the distant future vs. near future goal manipulations also showed that the participants had read and understood the task well and that the manipulations worked effectively:

A few examples of the participants' descriptions related to the distant future goal manipulation (things required to do well in a project which is due at the end of the semester) are given below:

"I will plan to do the assignment week by week. I will ask any questions I have to the lecturer and I will try to do the assignment with friends". Splitting the assignment for each week will help me to finish the assignment well. I will read any related information online as well as power point slides from the class."

"By working hard I can ensure that the project is done to perfection- that I

have completed each section to the best of my ability and that I have understood what each section is asking of me. I can leave the project for a number of days and then re-read it – to get a fresher perspective.

“Will plan in the beginning of the semester as on how will I go towards this project. Will make a time table and focus more on spending time in the project.”

A few examples of the participants’ descriptions related to the near future goal manipulation (things required to do well in a project which is due at next week) are given below:

“Spread empty papers, trying to write questions on them regarding my subject. Spend most of the time surfing the internet to get related articles, looking up for accurate data, that might support my argument. I make sure I keep chocolate and soft drinks nearby, so I don’t waste too much time going to a restaurant if less than 70% of the work has been done.”

“Working hard finishes tasks very quickly. Working hard on this project will make me focus on only this project and leave everything else.”

“I would divide the work into 7 days so that I would not get overwhelmed with the task I have to complete. Doing well also means I must have one or two opinions on the project I have done. Having a friend proof read my work always is beneficial. Lastly, if I had the chance to meet the professor privately to gain an extra couple of marks that will help me do well on the project.”

In Study 5A, all participants were primed with goal progress and only the level of task completion was varied – 20% vs 50% vs 80%. All participants had to do a description task which was about the thoughts that came to their mind when they had to read ten chapters from the textbook.

The goal progress manipulation was in lines with Fishbach & Dhar (2005). The manipulation as well as the manipulation checks for goal progress have already been described in the thesis (in the Results section in Study 5A).

The manipulation as well as manipulation checks related to level of goal completion we have also been presented in the thesis.

Participants' response in the description tasks showed that the participants had read and understood the task well. A few examples of the participants' descriptions in Study 5A are given below:

"It will probably take a long time for me to finish reading ten chapters. It also tells me that my exam is going to cover a lot of information, so I am going to have to study a lot."

"Summarize the main point of the ten chapters, if insufficient time then focus on the most important chapters which consist of the major part of the grade."

"First impression was – wow ten chapters. But then I thought we read ten or more chapters throughout the semester. So, basically its just going over things that are already cemented in your brain. I then think of what important facts I can take from ten chapters and understand that doing this is better for me overall."

"Well ten chapters of materials is quite a load. Obviously I will have to go through the ten chapters at least once. I will have to begin at least two weeks before the exam date in order to cover each chapter properly."

In Study 5B, all participants were primed with goal commitment whereas the level of task completion varied – 20% vs 50% vs 80%. All participants had to do a description task which was about the thoughts that came to their mind when

they had to read ten chapters from the textbook.

The goal commitment manipulation was in lines with Fishbach & Dhar (2005) . The manipulation as well as the manipulation checks for goal commitment have already been described in the thesis (in the Results section in Study 5B).

The manipulation as well as manipulation checks related to level of goal completion we have also been presented in the thesis.

Participants' response in the description tasks showed that the participants had read and understood the task well.

A few examples of the participants' descriptions in Study 5B are given below:

"A lot of hours for reading. Use highlighters for main ideas. Read the information given during classes with information given in the ten chapters. Read chapters and parts related to class content. Review the highlighted parts before exam."

"It is going to take time. Should I take notes? I should get started early so that I am not under pressure."

"Begin thinking of anything that I do to minimize this task- chapter summaries. Get out a study/ time plan for completing the reading."

On a whole, participant's task descriptions across different studies clearly show that they had read and understood the tasks well and the manipulations (e.g. abstract/ concrete goals in Study 3, distant future/near future goals in Study 4) had worked effectively.

## CHAPTER 5 - GENERAL DISCUSSION

### 5.1 THEORETICAL AND METHODOLOGICAL IMPLICATIONS FOR FUTURE RESEARCH

The starting point of this research was the literature on goal progress and goal commitment (e.g. Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007). The literature on goal progress and goal commitment indicates that viewing initial goal congruent actions in terms of goal progress makes it more likely that individuals will engage in goal incongruent behaviour subsequently. On the contrary, viewing initial goal congruent actions in terms of goal commitment makes it less likely that individuals will engage in goal incongruent behaviour subsequently.

In the current research, it is observed that the goal commitment prime leads to equal level of goal incongruent behaviour irrespective of the regulatory focus of individuals, temporal distance of focal goal, the level of goal concreteness or the different stages of goal completion. Thus, it can be said that the effect of the goal commitment prime on individual's willingness to engage in goal incongruent behaviour is a robust phenomenon.

The same however cannot be said regarding the effect of the goal progress prime on individuals' willingness to engage in goal incongruent behaviour. It is observed in the current research that the effect of goal progress prime can be altered by changing the regulatory focus of individuals, temporal distance of focal goal or the level of goal concreteness. The effect of the progress prime however does not alter based on stages of goal completion.

Thus in the context of research in the field of goal orientation, goal commitment is something which may not give any interesting finding for researchers working in this

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field in future. On the contrary, goal progress is something which can be of interest for researchers working in this field.

In fact, the literature published in the field of goal orientation over the last three years (e.g. Huang & Zhang, 2011; Zhang & Huang, 2010; Koo & Fishbach, 2012) have all focused on showing how the effect of the goal progress prime varies across situations. Goal commitment has not been studied in research done in the field of goal orientation over the last three years. This is a clear indicator of the current trend in this field. It is actually an acknowledgment of the fact that goal commitment is something which is not that interesting for researchers working in the field of goal orientation any more. The current research provides further evidence for this trend and this is an important implication that can be obtained from this research.

Further, researchers working on goal progress in future should not operationalize goal progress as an issue related to the actual level of goal completion that one has achieved. The current research has provided evidence that goal progress is a priming issue and not an issue related to the level of goal completion. What this means is that the effect of goal progress prime does not alter as a function of the stages of goal completion. Instead of comparing the effect of goal progress at different stages of goal completion, researchers may look to compare the effects of goal progress on individuals' willingness to engage in goal incongruent behaviour at different levels of potential moderators. The same has been done in the current research in Studies 2, 3 and 4.

In the current research, regulatory focus, level of goal concreteness and temporal distance of focal goal from present have been established as potential moderators of the divergent effects of goal progress and goal commitment. Researchers working on goal orientation in future may control the regulatory focus, level of goal concreteness and temporal distance of focal goal from present while running their experiments.

For example, a researcher may wish to compare the effects of goal progress on individuals' willingness to engage in goal incongruent activities at different levels of a

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potential moderator. However, if the researcher is not careful enough to control the level of concreteness of the focal goal while running his/her experiment, this might bias the findings of the researcher. An abstract goal, for example, would make it less likely for participants to do goal incongruent activities irrespective of the different levels of the potential moderator that is being tested for. Thus, even with a strong potential moderator, the researcher might still receive null findings just because the goal being pursued is abstract. The abstract goal would reduce the likelihood of participants doing goal incongruent activities.

So, it is important for researchers trying to find potential moderators for the effects of goal progress to control the level of goal concreteness while running their experiments. Researchers can use the abstractness/ concreteness manipulation check measure that has been used in Experiment 3 of the current research to ensure that the goal that will be used is not high on abstractness or concreteness.

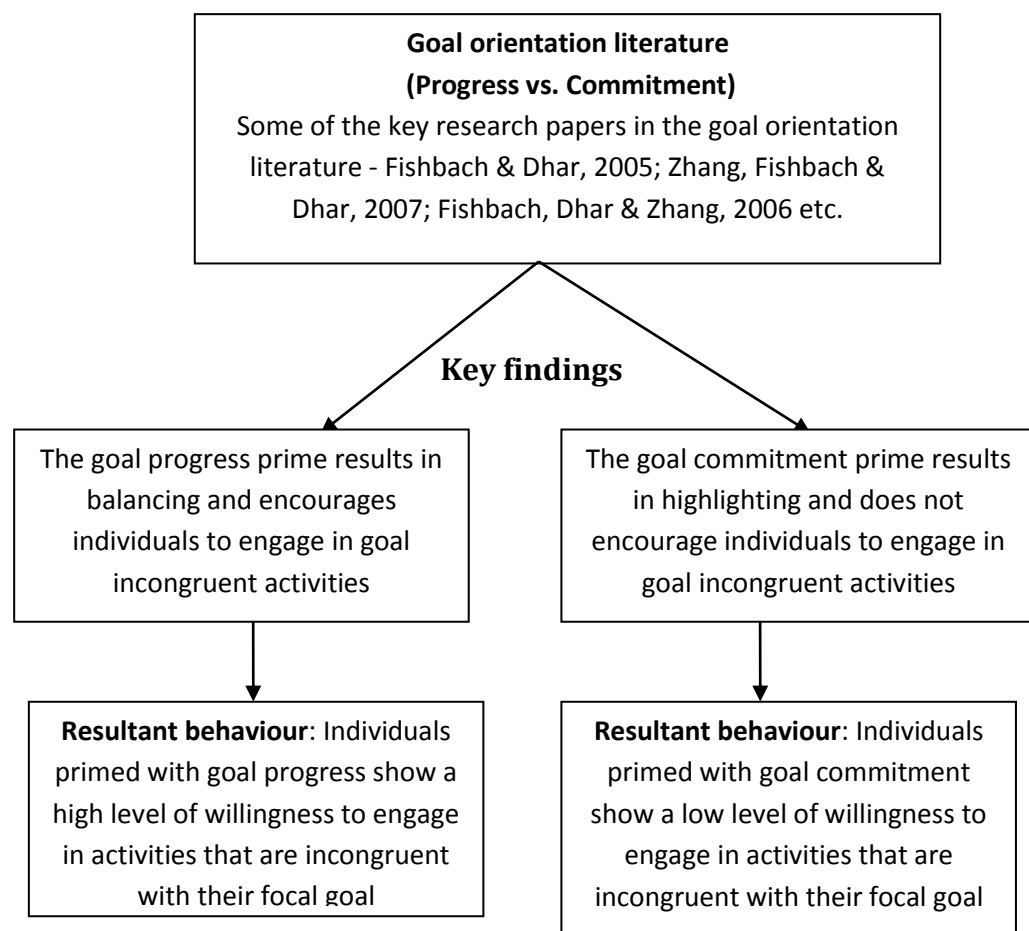
Another example may be given in this regard. A researcher may wish to compare the effects of goal progress on individuals' willingness to engage in goal incongruent activities at different levels of a potential moderator. However, if the participants in the experiment are primed with a near future goal, then this might bias the findings of the researcher. The near future goal would make it less likely for participants to do goal incongruent activities irrespective of the different levels of the potential moderator that is being tested for. Thus, even with a strong potential moderator, the researcher might still receive null findings just because the goal being pursued is in the near future. The near future goal would decrease the likelihood of participants engaging in goal incongruent activities.

So, it is important for researchers trying to find potential moderators for the effects of goal progress to control the temporal distance of the focal goal from present while running their experiments. Researchers can use the temporal distance

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manipulation check measure that has been used in Experiment 4 in the current research to ensure that the goal that will be used is not perceived as too near or too far.

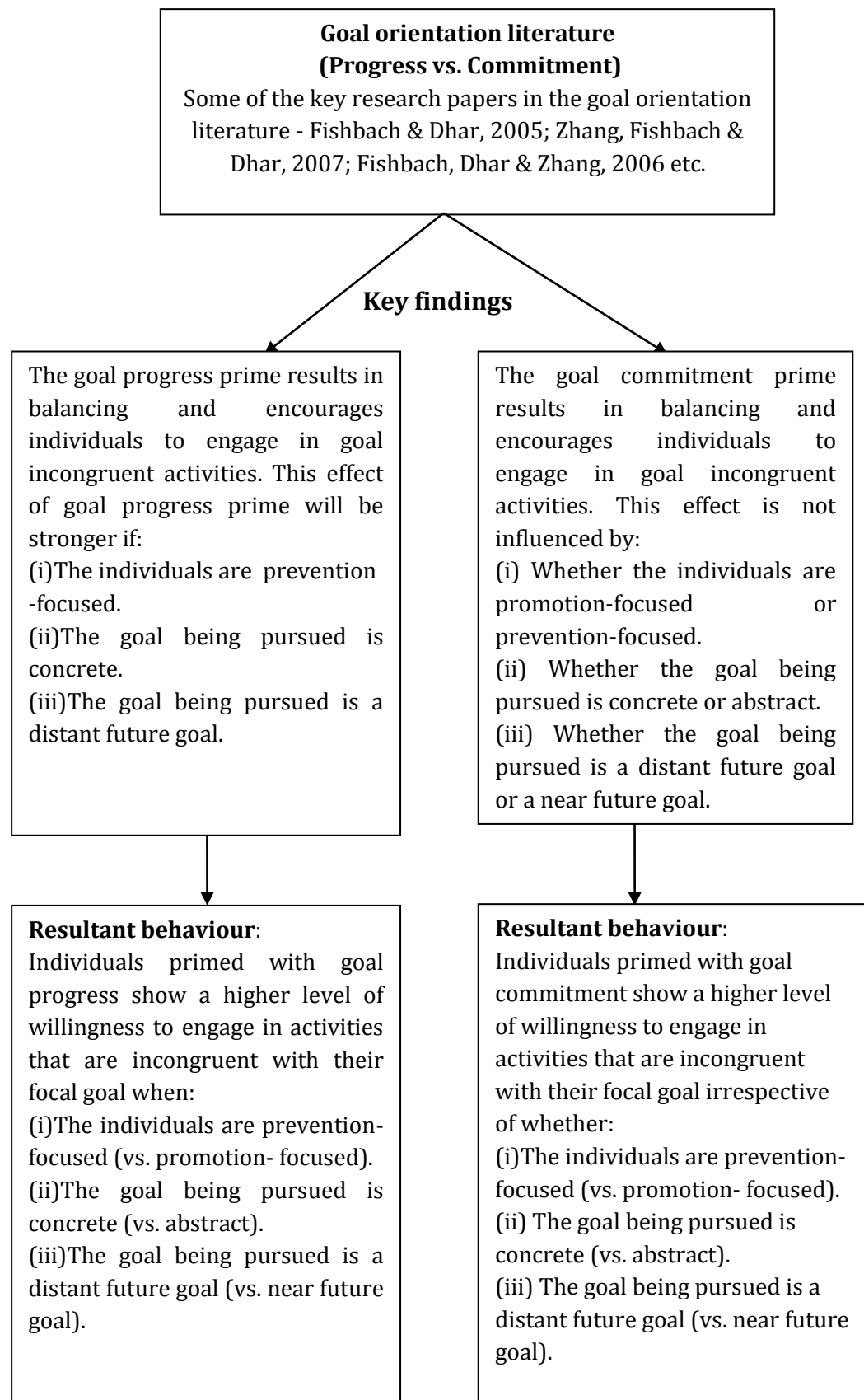
Also, important to note are the implications of the current research for the balancing/highlighting literature. Before the current research was done, the contribution of goal progress/ goal commitment towards the balancing/highlighting literature looked like the following:



**Figure 12: Balancing/Highlighting literature without the results of the current research being taken into account**

The balancing / highlighting literature assumes the following form with the results of the current research being taken into account:





**Figure 13: Balancing/Highlighting literature with the results of the current research being taken into account**

## **5.2 POSSIBILITY OF DEMAND EFFECTS AFFECTING EXPERIMENTAL FINDINGS**

All the studies in the current research had between-subjects design which means that each participant was exposed to just one treatment. Based on Sawyers (1975), between subjects experimental design (as compared to within subject designs) is always considered a good choice for an experimenter in terms of his ability to reduce design artefacts. The more conditions a participant is exposed to, greater is the probability that a participant will estimate the hypothesis of the experimenter correctly. Based on the logic of Sawyers (1975), it can be safely said that the probability of demand effect confounding the results of the current research was low since the experimental designs for all of my studies were between-subject.

Further, there has been some work done recently on demand effects by Zizzo (2010). In this article, the author suggests that if the expected experimental objectives (the objectives of an experiment that subjects may think of based on the information they have) are obscure or uncorrelated to the true objectives of an experiment, it is hard to assume that demand effects may confound the experimental findings. The information that was provided to my subjects prior to the experiment (through the participant information sheet and the study notification- given in the Appendix) had no mention about the true objectives of my experiments. Infact, the words progress and commitment did not appear in the information that was given to subjects prior to my experiments. Neither was there any mention regarding the moderators that were being tested. It was only mentioned that people make different choices in life in different situations and that reasons behind those choices were being explored in the current research. In the real experiments, subjects did not have to make any choice. They had to just give some ratings on scaled questions. Further, the moderators that were being tested for were not in any way related to why people made certain decisions in life. They were simply used for testing whether the effects of goal progress or commitment get stronger or get attenuated under different experimental conditions.

Therefore, it can be safe to conclude that it was hard for my experimental subjects to predict the hypotheses of the current research correctly and

that demand effects did not bias the experimental findings of the current research.

### **5.3 RATIONALE OF ADOPTING AN EXPERIMENTAL APPROACH IN CURRENT RESEARCH**

It is important to state the reason behind adopting an experimental approach in the current research. The reason was simple. Only an experimental setting in a controlled environment allows researchers in any stream of science to confidently make inferences regarding the presence or absence of a scientific relationship between an independent variable and a dependent variable (Kardes, 1996; Stanovich, 1996). In other words, an experimental setting in a controlled environment allows an experimenter to isolate the relationship between his/her variables of interest from a large set of identifiable relationships that otherwise exist in a non-controlled setting (Kardes, 1996). In the current research, different hypotheses have been proposed. In each hypotheses, there are specific independent variables, dependent variables and moderators. It is very important therefore to test the hypotheses in a controlled setting with all extraneous factors having been accounted for in order to safely conclude whether the hypotheses could actually be rejected. In a field setting, there are a lot of distractions for survey participants. Thus, it may not be possible to conclude whether a hypotheses has been properly tested. Only an experimental setting allows a researcher to control distractions and allow participants to focus solely on the survey. Therefore, the experimental setting was adopted to test all hypotheses in the current research.

### **5.4 APPROPRIATENESS OF THE USE OF COLLEGE STUDENTS AS EXPERIMENTAL PARTICIPANTS**

In the current research, one might raise the question that the use of student samples, in the current research may limit its applicability in a real world scenario. This apprehension is however not valid and the reasons for ruling out this apprehension are noted in the next couple of paragraphs.

## REFERENCES

Kardes (1996) states that using college students as experimental subjects is perfectly fine in research involving basic psychological processes. Basic research means research focusing on relative effects and not on absolute effects (e.g. Mook, 1983). In the context of experimental studies done in carefully controlled environments, relative effects helps researchers to identify moderators and mediators. In the current research, the main objective is to identify moderators for the effects of goal progress and goal commitment on the willingness of individuals to do goal incongruent behaviour. The current research is all about relative effects. That is, the effects of goal progress and goal commitment on the main dependent variable in this thesis (viz. willingness to engage in goal incongruent behaviour) are compared at different levels of potential moderators (e.g. regulatory focus, level of goal concreteness, temporal distance). The idea is to check whether there is any significant difference between the effects of goal progress and goal commitment on the main dependent variable at different levels of the potential moderators. So, absolute values of the dependent variables are not what are being looked into. What is of interest here is to do a comparison of the values of the dependent variable at different levels of the potential moderator. Thus, the use of student sample is perfectly valid for the purpose of the current thesis.

Further, the work of Kardes (1996) indicates that people have a general belief that the findings of scientific research are applicable only to the sample on which it is administered- the findings may not be generalizable. In Kardes (1996), this apprehension regarding use of student samples is termed as fundamental attribution error. In other words, people think that two different treatments produce different results when applied on two separate groups of people not because of the treatments but because of the individual differences that exists between the members of the two groups. However, the fact that random assignment of experimental subjects to different treatment groups (as was done across all the experiments reported in this thesis) attenuates the possibility of any experimental bias occurring due to individual differences across the sample is something that is often ignored by people.

## REFERENCES

Further, an apprehension regarding the use of student samples in scientific experiments is that students are so different from real people that experiments using student samples poses a concern regarding the generalizability of the findings obtained from the experiments (Kardes, 1996). However, the work of Kardes (1996) indicates that this apprehension is often misguided. College students are often perceived as smarter, more intelligent, more educated, less experienced than common people. However, the author of Kardes (1996) cites the work of Brehmer( 1980); Holland et al(1986) to show that years of unstructured experience does not lead to any better decision making in a real life scenario. The authors of Kardes (1996) note that the performance of experienced clinical psychologists is no better than the performance of inexperienced secretaries when it comes to diagnosing brain damage data using Bender-Gesalt test ( Goldberg, 1968). The authors of Kardes (1996) further note that experienced decision makers show a lot of inconsistency while using information to arrive at judgments.

Thus on a whole the argument against the use of student samples in scientific experiments can be termed as not valid. The fact that the randomization of experimental subjects across treatment groups takes care of any potential bias that may arise due to individual differences between experimental subjects allays the fear that the findings obtained from scientific experiments is applicable only for the experimental subject. Further, the findings from previous research (e.g. Brehmer, 1980) suggesting that unstructured day to day experience in life does not necessarily lead to better decision making dispels the notion that student subjects may not be the right people to do scientific experiments simply because they lack things like experience in life. Thus, the findings of the current research can be termed as generalizable and externally valid.

## 5.5 APPROPRIATENESS OF THE USE OF THE ACADEMIC CONTEXT ACROSS ALL EXPERIMENTS

The main purpose of the current research was to identify and test moderators of the effects of goal progress and goal commitment. The divergent effects

of goal progress and goal commitment has been tested across domains like academic, health, money and is generalizable based on studies like Fishbach & Dhar, 2005; Zhang, Fishbach & Dhar, 2007 etc. A moderator is defined as a qualitative or quantitative variable that affects the direction and/or strength of relationship between an independent variable and a dependent variable (Baron & Kenny, 1986). The definition of moderator does not have any mention about the context in which the moderator is tested. Ideally then, a variable which can moderate the relationship between an independent and a dependent variable in one experimental context should be able to moderate the relationship between the same independent and dependent variable in any context whatsoever. In the current research, it has been shown that regulatory focus, level of goal concreteness, temporal distance of focal goal moderate the relationship between the independent variable goal orientation (having two levels progress/commitment) and the dependent variable- willingness to engage in goal incongruent behaviour. The context selected for all experiments was academic. Based on the definition of a moderator, it can then be said that findings similar to the experiments in the current research should be observed across any other experimental context (e.g. health, money). Thus, the fact that an academic context has been selected for the experiments in the current research should not be considered as problematic.

## 5.6 LIMITATIONS OF CURRENT RESEARCH

(1) The scale used to measure regulatory focus in Study 2 proved to be extremely unreliable. This is a major limitation of the current research. However, it is important to know about the background behind selecting this scale for the current research. In the study of Haws, Dholakia & Bearden (2010), the composite scale of regulatory focus is clearly suggested as a suitable and useful alternative for researchers who are attempting to identify the regulatory focus of individuals. It has been argued by the authors of Haws, Dholakia & Bearden (2010) that the scales of regulatory focus that are commonly used, e.g., RFQ scale (Higgins et al., 2001); Lockwood scale (Lockwood, Jordan & Kunda, 2002); BIS/BAS scale (Carver & White, 1994) suffer from limitations if considered individually.

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It has been further explained by the authors of Haws, Dholakia & Bearden (2010) that the composite scale of regulatory focus developed in Haws, Dholakia & Bearden (2010) has been constructed by taking the best out of all the existing scales of regulatory focus. To elaborate, the scale has been constructed by taking the approach and avoidance measures from the RFQ scale of Higgins et al., 2001; the ideal and ought measures from the scale of Lockwood, Jordan & Kunda (2002) and the cognitive and emotional components from the BIS/BAS scale of Carver & White (1994). It has accordingly been suggested in Haws, Dholakia & Bearden (2010) that the composite scale of regulatory focus addresses the limitations that each individual scale suffers from. It has been further suggested in the same study that in terms of reliability and predictive validity, the composite scale is similar or possibly superior as compared to some of the existing scales of regulatory focus. The choice of the regulatory focus scale in Study 2, the proposed moderator of the relationship between goal orientation and willingness to engage in goal incongruent activities was based on this presumption that it is the most well developed scale of regulatory focus.

However, the reliability of the promotion and prevention focus items of Haws, Dholakia & Bearden (2010) was found to be extremely low. In other words, the scale proved to be extremely inconsistent internally. This starkly contrasts the suggestions of the study of Haws, Dholakia & Bearden (2010) based on which the scale was selected for measuring regulatory focus and proves actually that the adopted scale in itself has severe limitations.

An alternative would have been to use another standard scale of regulatory focus (e.g. Higgins, 2002) and re-test Hypothesis 1a and Hypothesis 1b. That is something which was probably missed out and is a limitation of this research.

(2) A proper control group could have been used while conducting the experiments. Progress and commitment are each other's control. A neutral control group could have been included and from the differences relative to this third group, it could have

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been determined whether the effects (or non effects) appear mostly between the progress and control or between the commitment and control groups. This is a limitation of the current research.

(3) In Study 3, the Vallacher & Wegner (1989) scale was used to measure the different levels of abstract/ concrete thinking induced by the abstract/ concrete goals. This was done in order to rule out the alternative explanation that the findings of Study 3 can be attributed to the different levels of abstract thinking induced by the abstract and concrete goals and not to the level of concreteness of the goals per se. It should however be noted that the Vallacher & Wegner (1989) scale has low power although it has been widely cited in literature. Thus, the use of Vallacher & Wegner (1989) scale can be termed as another limitation of the current research though it is probably one of the best possible scales that is available in the literature for the purpose of measuring the different levels of abstract thinking induced by the abstract and the concrete goals.

(4) Concluding that the progress and commitment manipulations worked based on a difference relative to the scale midpoint is something which could have been improved upon, it would have been better to have a proper control group.

(5) In Study 5A & Study 5B, the manipulation related to the level of goal completion has the issue that subjects may infer different levels of difficulty from being able to study 2 or 8 chapters on one day and this could possibly affect self-perceived commitment. Task difficulty could have been used as a covariate in these two studies. This is an oversight in the current research.

(6) It would have been better if a pre-test was done to test whether the activities like “hanging out with friends .....”, “attending a sports event” etc. are considered as goal incongruent activities. Though, these are clearly activities unrelated to studying and



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therefore considered as activities incongruent with one's academic goal, doing a pre-test would possibly have made it simpler to justify the use of these activities as those which are incongruent with the academic goals of individuals.

(6) No item was included in the dependent variable that could directly test the extent to which participants would be willing to continue doing a goal congruent activity that evening ( e.g. continue studying). This would then have been a most obvious goal congruent behavior which could have provided further empirical evidence of participants' willingness to deviate from their goals in different experimental conditions. This is something which could have been done.

## **5.7 MANAGERIAL IMPLICATIONS**

A number of managerial implications of the current study are provided below:

(i) Consumers can be naturally oriented to be promotion- or prevention-focused based on their culture. In individualistic cultures (e.g. United States), consumers are predominantly promotion-focused. In collectivistic cultures (e.g. Japan), consumers are predominantly prevention-focused.

In Study 2, there were four conditions- prevention-focus progress, prevention-focus- commitment, promotion-focus progress, promotion-focus commitment.

The findings of Study 2 show that the condition under which individuals will be highly susceptible to deviate from their goals and do some goal incongruent activity is the goal progress-prevention focus condition (vs. goal progress-promotion focus / goal commitment-prevention focus / goal commitment - promotion-focus conditions). Therefore, it can be concluded that for prevention- focused consumers, talking about their past achievements in terms of progress would lead them to indulge in some goal incongruent activities. Thus, marketers of vices or indulgent items (e.g. leisure travel companies, restaurants, party organizers) could specifically persuade prevention-

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focused consumers to indulge using communications that highlight their progress on their desired goals (e.g. you are working hard every day trying to progress in your life and thus you deserve a fun filled vacation once in a while to be able to rejuvenate yourself", or " every achievement that you make shows you are progressing in life- celebrate your progress by taking your family for an exotic vacation or "every day that you study you progress towards excellence- do take a break once in a while and have a nice evening with friends in our restaurant". )

(ii) In Study 3, there were four conditions: goal progress- abstract goal, goal progress- concrete goal, goal commitment - abstract goal, goal commitment - concrete goal. Studying hard will definitely help you to get a good grade.

The findings of Study 3 show that the condition under which individuals will be highly susceptible to deviate from their goals and do some goal incongruent activity is the goal progress-concrete goal condition (vs. goal progress-promotion focus / goal commitment-prevention focus/goal commitment- promotion-focus conditions).

Thus, marketers of vices or indulgent items (e.g. leisure tour operators/ restaurants/party organizers) could specifically persuade consumers to indulge using communications that highlight their achievements in life in terms of concrete goals (e.g. you are working hard every day trying to progress in your life and thus you deserve a nice vacation once in a while to be able to rejuvenate yourself", or " every achievement that you make shows you are progressing in life- celebrate your progress by taking your family for a vacation" or "Studying hard will help you get good grades. However, do not miss the chance once in a while to spend some quality time with friends. So, study hard but party hard also."

(iii) In Study 4, there were four conditions: goal progress- distant future goal, goal progress - near future goal, goal commitment - distant future goal, goal commitment - near future goal.

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The findings of Study 4 show that the condition under which individuals will be highly susceptible to deviate from their goals and do some goal incongruent activity is the goal progress-distant future goal condition (vs. goal progress - near future goal condition / goal commitment - distant future goal condition/goal commitment - near future conditions).

Thus, marketers of vices or indulgent items (e.g. leisure tour operators/restaurants/party organizers) could specifically persuade consumers to indulge using communications that highlight their achievements in life in terms of distant future goals (e.g. “started working on your projects - well this is just beginning of the semester, so do not forget to take some time off and do some partying as you will get busy later”, “started working on your projects - well this is just beginning of the semester, how about going for a trip this weekend - you will have no time later”).

## 5.8 AVENUES FOR FUTURE RESEARCH

### ***5.8.1 EXPLORING PROCESS LEVEL EXPLANATIONS OF THE DIVERGENT EFFECTS OF GOAL PROGRESS AND GOAL COMMITMENT***

Future research could possibly test for some possible process level explanations of the divergent effects of goal progress and goal commitment. Some of those possible explanations are discussed here forth.

#### ***5.8.1.1 ASSIMILATION/CONTRAST AS A POSSIBLE PROCESS LEVEL EXPLANATION***

The following research question could be asked: Can Assimilation/Contrast Theory (e.g. Mussweiler, 2003; Morse & Gergen, 1970) explain the divergent effects of goal progress and goal commitment on individuals’ willingness to engage in goal incongruent behaviour (e.g. Fishbach & Dhar, 2005)?

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In other words, is it a possibility that goal commitment primes individuals with contrast whereas goal progress primes individuals with assimilation? This question could be explored further.

Based on the assimilation and contrast literature, it can be deduced that, for assimilation or contrast to occur, there is a target object which needs to be compared against a standard. For example, any individual may be the target object. The standard may be another person about whom information related to some attribute (e.g. hostility, competence) is provided to the target object (e.g. Herr, 1986; Morse & Grengen, 1970; Mussweiler, 2003). Even a length of a river (e.g. Mississippi river) can be a target object. The standard may be just a number with which length of the Mississippi river needs to be compared (e.g. Jacowitz & Kahneman, 1995).

Sometimes comparison between a target object and a standard may result in a contrast effect i.e. the target object may be considered as far apart from the standard with respect to the attribute of comparison e.g. a target person may be judged as less hostile in the context of an extremely hostile person (e.g. an authoritarian ruler) than in the context of an extremely peaceful person (e.g. the pope) or as less competent in the context of a competent person than in the context of an incompetent person (e.g. Herr, 1986; Morse & Grengen, 1970; Mussweiler, 2003).

Sometimes comparison between a target object and a standard may result in assimilation of a target object towards the standard of comparison, e.g., the length of the river Mississippi can be rated as longer in the context of a higher numeric standard than in the context of a lower numeric standard (Jacowitz & Kahneman, 1995; Mussweiler, 2003). Future teachers can have higher estimations of the self in the context of a teacher who is considered as a role model than in the context of an irrelevant role model (e.g. someone who is not a teacher) (Morse & Grengen, 1970).

## REFERENCES

It is possible that priming individuals with goal commitment actually results in a contrast effect i.e. the dissimilarities between a goal congruent activity and a goal incongruent activity in terms of their abilities to aid or hinder goal attainment become salient in the minds of individuals. The work of Mussweiler (2003) indicates that a contrast effect may result in a focus on dissimilarities between the target object and the standard. Thus, if a goal incongruent activity is the target object and a goal congruent activity is the standard, then it is possible that goal commitment causes a contrast effect. The result of this contrast effect is that the goal incongruent activity and the goal congruent activity appear highly dissimilar with the incongruent activity being seen as something which can hinder one's goal attainment whereas the congruent activity being seen as something which can aid one's goal attainment. The focus on dissimilarities between the goal congruent and the goal incongruent activities may result in a lesser likelihood amongst individuals primed with goal commitment to do something goal incongruent.

For example, as was shown in Zhang, Fishbach & Dhar (2007), individuals pursuing a health goal, upon being primed with goal commitment were more likely to choose a healthy drink over an unhealthy drink. It is possible that a contrast effect resulting from the commitment prime in Zhang, Fishbach & Dhar (2007) made the dissimilarities between an unhealthy option (e.g. an unhealthy drink) and a healthy option (e.g. a healthy drink) salient in the minds of individual. This resulted in a decreased likelihood amongst individuals primed with goal commitment to do goal incongruent behaviour.

It is also possible that priming individuals with goal progress actually results in an assimilation effect i.e. the dissimilarities between a goal congruent activity and a goal incongruent activity in terms of their abilities to aid or hinder goal attainment become less salient in the minds of individuals. The work of Mussweiler (2003) indicates that assimilation effect results in a lesser focus on dissimilarities between a target object and a standard. Thus, if a goal incongruent activity is the target object and a goal congruent activity is the standard, then it is possible that goal progress causes an assimilation

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effect. The result of this assimilation effect is that the goal incongruent activity does not appear as a threat to goal attainment any more. In other words, the fact that progress has already been achieved may result in the thinking that the goal will be attained anyways. This may result in an assimilation of the goal incongruent activity towards the goal congruent activity with a sense of optimism that nothing can actually hinder goal attainment anymore.

For example, as was shown in Zhang, Fishbach & Dhar (2007), individuals pursuing a health goal, upon being primed with goal progress were more likely to choose an unhealthy drink over a healthy drink. It is possible that an assimilation effect resulting from the progress prime in Zhang, Fishbach & Dhar (2007) made the dissimilarities between an unhealthy option (e.g. an unhealthy drink) and a healthy option (e.g. a healthy drink) less salient in the minds of individuals. This resulted in an increased likelihood amongst individuals primed with goal progress to do goal incongruent behaviour.

### **5.8.1.2 PROSPECT THEORY AS A POSSIBLE PROCESS LEVEL EXPLANATION**

The following research question could be asked: Can the results from the literature related to Prospect Theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981) explain the divergent effects of goal progress and goal commitment (e.g. Fishbach & Dhar, 2005) on individuals' willingness to engage in goal incongruent behaviour?

The authors of Prospect Theory explain decision making in terms of the principles affecting human perception (e.g. Tversky & Kahneman, 1981). For example, simply changing the way in which a decision problem is framed can lead to preference reversals because of the differences in the sensitivity of individuals towards gains and losses (Tversky & Kahneman, 1981).

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For example, in one problem (referred to as Problem 1 hereafter), participants in an experiment were asked to imagine that people in the United States are faced with the possibility of being infected by a certain Asian disease and that 600 people are expected to die because of the disease. Subsequently, individuals were asked to indicate their preferences for two counteractive measures that were being adopted in order to stall the spread of the disease. The two measures presented to the participants in the experiment were effectively the same alternative producing the same effect in terms of combating the disease but framed in different ways.

In one of the framings of Problem 1 presented to participants, a counteractive measure (Option 1) was said to be able to save the lives of 200 people. A second counteractive measure (Option 2) was said to be having a  $1/3$  probability of saving 600 people and  $2/3$  probability of saving no one. Majority of the participants in the experiment preferred Option 1 over Option 2 (Kahneman & Tversky, 1984).

In a rephrasing of the problem (referred to as Problem 2), one of the counteractive measures (Option 1) was said to be resulting in the deaths of 400 people. A second counteractive measure (Option 2) was said to be having a  $1/3$  probability that no one will die and a  $2/3$  probability that 600 people will die. Majority of the participants in the experiment preferred Option 2 over Option 1 (Kahneman & Tversky, 1984).

But why do these preference reversals occur? Kahneman & Tversky (1984) explained that when the problem was originally phrased, participants coded the outcomes as gains. However, when the problem was rephrased, participants coded the outcomes as losses. Since losses loom larger than gains, individuals are more risk averse for gains and more risk seeking for losses. This difference in risk seeking tendencies of individuals in domains involving gains or losses led to the reversal of preferences in the example described.

## REFERENCES

Referring back to the example that has just been discussed, the formulation of Problem 1 makes individuals choose as their reference point, a state of affairs in which the disease is allowed to take the lives of 600 people. The results of the counteractive measures include the reference point and two potential gains, assessed by the number of lives that can be saved. This thinking about the counteractive measures in terms of potential gains or in other words in a gain frame leads individuals to be risk averse while stating their preferences. This results in them choosing Option 1 which apparently guarantees the saving of 200 lives over Option 2 which does not perceivably provide any guarantee of saving lives (Kahneman & Tversky, 1984).

The formulation of Problem 2 makes individuals choose as their reference point, a state of affairs in which no one dies from the disease. The results of the counteractive measures include the reference point and two potential losses, assessed by the number of lives that will be lost. Thinking about the counteractive measures in terms of potential losses or in other words in a loss frame leads individuals to be risk seeking while stating their preferences. This results in them choosing Option 2, the apparently riskier option but which has a greater perceived ability to minimize losses as compared to Option 1 which perceivably results in the sure loss of 400 lives (Kahneman & Tversky, 1984).

Summarily thus, a decision frame when viewed in terms of gains makes individuals risk averse whereas a decision frame when viewed in terms of losses, makes individuals risk seeking. The important question is can Prospect Theory explain the divergent effects of goal progress and goal commitment on individuals' actions (e.g. Fishbach & Dhar, 2005)?

Extending the Prospect Theory, it can be proposed that an initial act of goal congruence when viewed in terms of goal commitment or goal progress may induce individuals to be risk averse or risk seeking while making subsequent decisions.



## REFERENCES

For example, the results of Fishbach & Dhar (2005) indicate that individuals viewing their initial goal congruent activities (e.g. studying hard for the entire day) in terms of commitment towards their academic goal were less likely to do any activity that was inconsistent with their academic goal (e.g. hanging out with friends in the evening). It is possible that the use of the commitment prime in the study of Fishbach & Dhar (2005) induced individuals to become risk averse. A possible cause of this risk aversion could stem from the thinking that the goal has not yet been achieved and that one needs to work hard in order to attain the goal. The result of this risk aversion was the reduced willingness of individuals primed with goal commitment to do a goal incongruent activity (e.g. hanging out with friends).

On the contrary, the results of Fishbach & Dhar (2005) indicate that individuals viewing their initial goal congruent activities (e.g. studying hard for the entire day) in terms of progress towards their academic goal were more likely to do any activity that was inconsistent with their academic goal (e.g. hanging out with friends in the evening). It is possible that the use of the progress prime in the study of Fishbach & Dhar (2005) induced individuals to be risk seeking. The result of this risk seeking tendency was the increased willingness of individuals primed with goal progress to do a goal incongruent activity (e.g. hanging out with friends). A possible cause of being risk seeking could be that sufficient progress has been achieved and that the potential loss of study hours could easily be compensated with some extra effort in the future.

Based on Prospect Theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981), a gain frame makes individuals risk averse whereas a loss frame makes individuals risk seeking. This in turn leads to the divergent effects of a gain frame and a loss frame on individuals in terms of their willingness to take risk. As an extension of the Prospect theory, it could be proposed that even a commitment frame could make individuals risk averse whereas a progress frame could make individuals risk seeking. This in turn could lead to the divergent effects of goal progress and goal commitment on individuals in terms of their willingness to engage in goal incongruent behaviour.

### **5.8.1.3 LICENSE EFFECT AS A POSSIBLE PROCESS LEVEL EXPLANATION**

The following research question could be asked: Can the License Effect (Khan & Dhar, 2007) explain the divergent effects of goal progress and goal commitment on an individual's willingness to engage in goal incongruent behaviour.

Results from Khan & Dhar (2007) show that individuals pursuing altruistic goals may feel complacent after performing an act of altruism. This may result in them making decisions which are not altruistic. This type of behaviour is termed as License Effect in the sense individuals feel licensed to take breaks from their goal after having done something that is goal congruent. For example, in one of the experiments of Khan & Dhar (2007), a group of participants were asked to imagine having performed an altruistic activity (e.g. teaching homeless children or working on improving the environment). Another group of participants did not do any such imagination task. Subsequently, the participants were presented with a choice task. They were asked to make a choice between an expensive and a non-expensive sunglass. It was observed that participants who imagined themselves as being altruistic took the decision to act more lavishly in the subsequent choice task. Those participants showed greater choice likelihoods of selecting the expensive sunglass. Results from a different study in Khan & Dhar (2007) showed that participants who imagined having performed an altruistic activity subsequently showed selfish behaviour (e.g. not showing much interest for giving a reasonable amount as donation to a charity).

The authors of Khan & Dhar (2007) postulated that participants who imagined themselves as individuals who are altruistic felt more liberated or licensed to perform non-altruistic acts subsequently. They termed this behaviour as the License Effect.

Results from Khan & Dhar (2007) also indicate that attributing an act of altruism committed by an individual to an external factor mitigates the License Effect. For example, results from one of the experiments of Khan & Dhar (2007) show that an initial altruistic action (e.g. performing a community service) reduced the willingness of individuals to spend lavishly during a subsequent choice task when the altruistic action

## REFERENCES

was viewed as an obligation ( e.g. performing community service as a penalty for traffic violation) and not as an indicator of their altruistic selves. It is possible that the License Effect (Khan & Dhar, 2007) may be driving the divergent effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent activities (e.g. Fishbach & Dhar, 2005).

When individuals infer goal progress based on their initial actions, they may view goal progress as an indicator of the positive attributes that they possess. For example, participants in the study of Fishbach & Dhar (2005), upon viewing their day's studies in terms of academic goal progress may have inferred that they are bright and intelligent individuals. This may have resulted in a sense of complacency in those individuals which in turn might have increased their likelihood to do something other than studies that evening (e.g. hanging out with friends).

When individuals infer goal commitment based on their initial actions, they may view their initial goal congruent actions as duties or obligations which they ought to be fulfilling and they may not view those actions as achievements which highlight them in a positive light. For example, participants in one of the experiments in Fishbach & Dhar (2005), upon viewing their day's studies in terms of academic goal commitment may have inferred that it is their duty or obligation as students to study hard and it is not really any big achievement. This may have resulted in those individuals not getting complacent after their day's studies which in turn might have reduced their likelihood to take a break from their studies and do something else ( e.g. hanging out with friends). Thus, the License Effect (Khan & Dhar, 2007) can be a potential explanation of the divergent effects of goal progress and goal commitment on an individual's willingness to engage in goal incongruent behaviour.

**5.8.1.4 ANTICIPATORY POST DECISION REGRET AS A POSSIBLE PROCESS LEVEL EXPLANATION**

The following research question could be asked: Can different levels of anticipatory post decision regret induced by goal progress and goal commitment explain the divergent effects of goal progress and goal commitment on an individual's willingness to engage in goal incongruent behaviour?

According to the norm theory proposed by Kahneman & Miller (1986), individuals are expected to feel greater regret and responsibility for decisions that deviate from the norm or the default behaviour since it is easier to justify doing things that fit with the convention or norm. The work of Simonson (1992) indicates that consumers would act conservatively (e.g. by showing preference for a well-known brand instead of trying out a new brand) if they are asked to suggest how they would feel if their decision turns out to be wrong.

It is possible that the goal progress and the goal commitment primes may induce different levels of anticipatory post decision regret. This in turn may explain the divergent effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent behaviour.

Results from studies like Fishbach & Dhar (2005) indicate that students pursuing an academic goal would be more likely to do something that is goal incongruent (e.g. hanging out with friends instead of studying) if they view their initial goal congruent actions (e.g. a hard day of study) in terms of academic goal progress. On the contrary, students pursuing an academic goal would be less likely to do something that is goal incongruent (e.g. hanging out with friends instead of studying) if they view their initial goal congruent actions (e.g. a hard day of study) in terms of academic goal commitment.

It can be assumed that for students pursuing a goal of doing well academically, the default behaviour should be to focus on their studies. The thought of doing

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something which leads to loss of study hours (e.g. hanging out with friends) can be considered as a deviation from the default behaviour and can thus generate a sense of anticipated post decision regret.

Students who view their hard day's studies in terms of progress towards their academic goal might have found it easier to justify an act of goal incongruence with the feeling that progress has already been achieved. This in turn might have reduced their sense of anticipated post decision regret. As a consequence, students primed with goal progress were more likely to engage in activities that were inconsistent with their academic goal.

Students primed with goal commitment might have found it harder to justify a deviation from the norm since commitment to studies and spending time for activities that are unrelated to studying just do not fit with each other. This in turn might have increased their sense of anticipatory post decision regret. As a consequence, students primed with goal commitment were less likely to engage in activities that were inconsistent with their academic goal.

Summarily thus, the current research provides a number of opportunities to take the field of goal progress and goal commitment forward. Theories like Assimilation & Contrast (Mussweiler, 2003), Prospect Theory (Kahneman & Tversky, 1979), License Effect (Khan & Dhar, 2007), Norm Theory (Kahneman & Miller, 1986) are well established theories in the domain of marketing and psychology. Application of these theories in the domain of goal progress and goal commitment may provide possible process level explanations of the divergent effects of goal progress and goal commitment on individual's willingness to engage in goal incongruent behaviour.

Three moderators of the divergent effects of goal progress and goal commitment (viz. regulatory focus, level of goal concreteness, temporal distance) have been identified in this study. The fact that goal progress and goal commitment are priming

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issues has also been established in this study. Thus, the theoretical contributions of this study for the goal progress and goal commitment literature are significant. Identification of a mediator would take the work of the current study forward and would provide an even more advanced theoretical framework for the goal progress and goal commitment literature. Hence, testing the possible process level explanations of the divergent effects of goal progress and goal commitment using the theories discussed in this section could be an interesting platform for future research in this area.

### 5.8.2 REPLICATION OF THE EFFECTS SHOWN IN THE CURRENT STUDY ACROSS CONTEXTS

The experiments in the current study have been done in an academic context. Though generalizability of findings obtained from current research should not be a concern (as has been discussed in Section 5.5), future researchers could consider replicating these findings across contexts (e.g. health, money etc.) to actually demonstrate the degree of robustness of the findings in different settings.

Overall thus, the contributions of the current study can be summarized as follows:

The current study explores a set of moderators of the divergent effects of goal progress and goal commitment on individuals' willingness to engage in goal incongruent behaviour.

(i) Regulatory focus, level of goal concreteness and temporal distance of focal goal are identified as moderators of the divergent effects of goal progress and goal commitment.

(ii) The current study shows that goal progress and goal commitment are priming issues and not issues related to the actual level of goal completion that one has achieved.

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(iii) Based on the findings of the current study it is suggested that in future, researchers working in the area of goal orientation should focus on identifying moderators of the effects of goal progress on willingness of individuals to do goal incongruent behaviour. Based on the findings of the current study, it is also advised that researchers working in the area of goal orientation should not focus much on finding conditions under which the effects of goal commitment can be altered. This is because there is enough evidence to show that the effect of goal commitment on goal congruent behaviour is a robust phenomenon.

(iv) The current study has important methodological implications too. Specifically, based on the findings of the current study it is suggested that in future, researchers working in the area of goal orientation should control regulatory focus, the level of concreteness of focal goal and temporal distance of focal goal from present while running their experiments in order to avoid any bias in their experimental designs.

Though progress and commitment are each other's control, having a neutral control group is something which future researchers in the area of goal progress and goal commitment should include as part of their experimental design.

Researchers working in the area of regulatory focus should not use the scale developed Haws, Dholakia & Bearden (2010) to measure regulatory focus of individuals.

(viii) Finally, some interesting managerial implications can be suggested based on the findings of the current study.

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## **Appendix 1A- Study 1-Question Set 1-Low Salience Progress**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who has a goal of doing well academically at the university.

Please turn to next page

## APPENDIX

(1) Read the questions given below carefully and circle the appropriate numbers on the scales.

(i) Imagine that you have studied hard for the entire day. As a person who has a goal of doing well academically, indicate on the following scale whether you would feel that you have made progress towards your academic goal whenever you study hard for an entire day.

Not at all					A lot	
1	2	3	4	5	6	7

(ii) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(iv) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(v) Watching your favourite programs on television or on online channels like YouTube that evening.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(3) Browsing through shopping websites and buying things that you like.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(4) Playing on your PC for a few hours that evening, such as playing video games or chatting on Facebook with friends?

Not at all likely					Very likely	
1	2	3	4	5	6	7

(2) Referring back to the scenario in Q(1), how much of your academic goal do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
----------------------	-----------------

|.....|

-End of Study-

**Appendix 1B- Study 1-Question Set 2-Low Salience Commitment**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who has a goal of doing well academically at the university.

Please turn to next page

## APPENDIX

(1) Read the questions given below carefully and circle the appropriate numbers on the scales.

(i) Imagine that you have studied hard for an entire day. As a person who has a goal of doing well academically, indicate on the following scale whether you would feel that you are committed towards your academic goal whenever you study hard for an entire day.

Not at all				A lot		
1	2	3	4	5	6	7

(ii) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(1) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).

Not at all likely				Very likely		
1	2	3	4	5	6	7

(2) Watching your favourite programs on television or on online channels like YouTube that evening?

Not at all likely				Very likely		
1	2	3	4	5	6	7

(3) Browsing through shopping websites and buying things that you like.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(4) Playing on your PC for a few hours that evening, such as playing video games or chatting on Facebook with friends?

Not at all likely				Very likely		
1	2	3	4	5	6	7

(2) Referring back to the scenario in Q(1), how much of your academic goal do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
----------------------	-----------------

|.....|

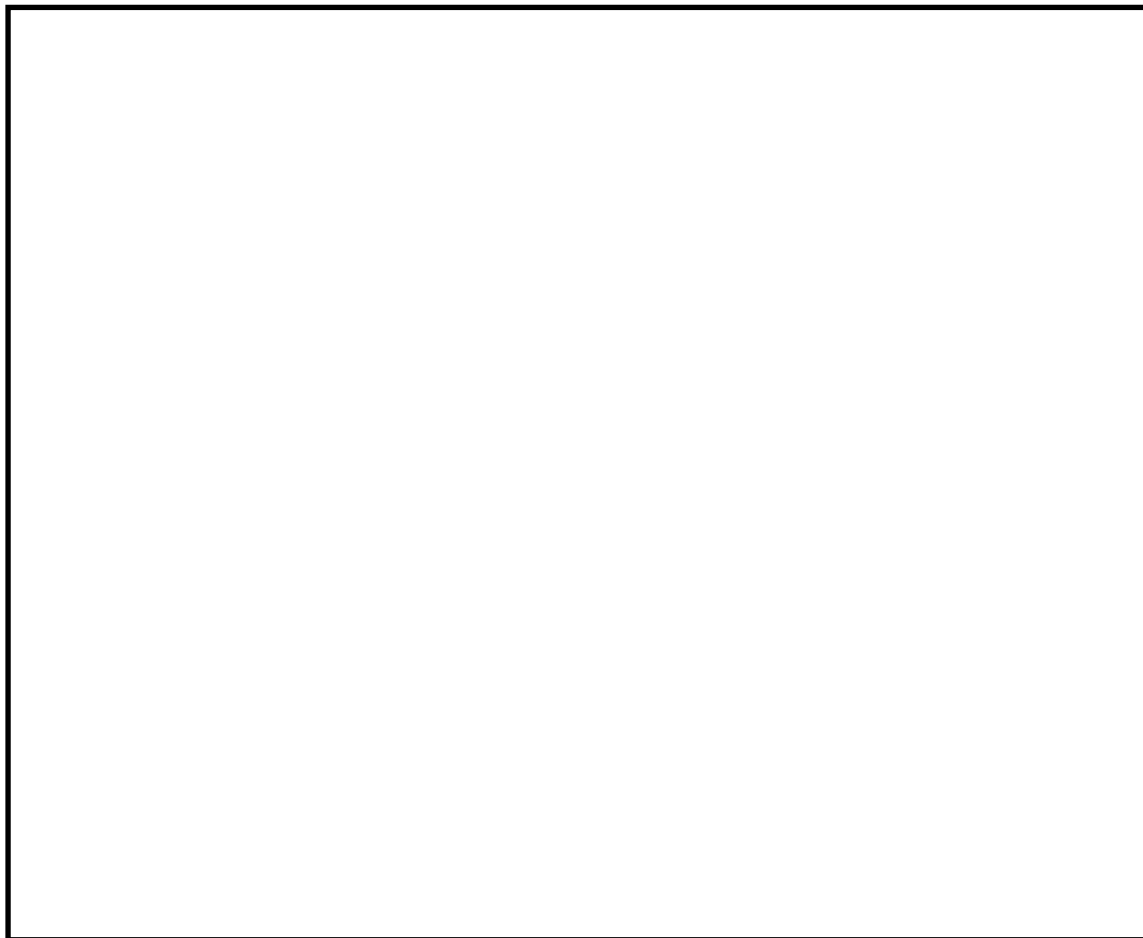
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### **Appendix 1C-Study 1-Question Set 3-High Salience Progress**

This is a “Self Evaluations” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who has a goal of doing well academically at the university.

In the box below, describe how studying hard regularly can help one to do well academically as compared to if one does not study hard regularly.

A large, empty rectangular box with a black border, intended for the respondent to write their answer to the question about studying hard regularly.

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## APPENDIX

(1) Read the questions given below carefully and circle the appropriate numbers on the scale.

(i) Imagine that you have studied hard for the entire day. As a person who has a goal of doing well academically, indicate on the following scale whether you would feel that you have made progress towards your academic goal whenever you study hard for an entire day.

Not at all					A lot	
1	2	3	4	5	6	7

(ii) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(1) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(2) Watching your favourite programs on television or on online channels like YouTube that evening.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(3) Browsing through shopping websites and buying the things that you like.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(4) Playing on your PC for a few hours that evening, such as playing video games or chatting on Facebook with friends.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(2) Referring back to the scenario in Q(1), how much of your academic goal do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
.....	

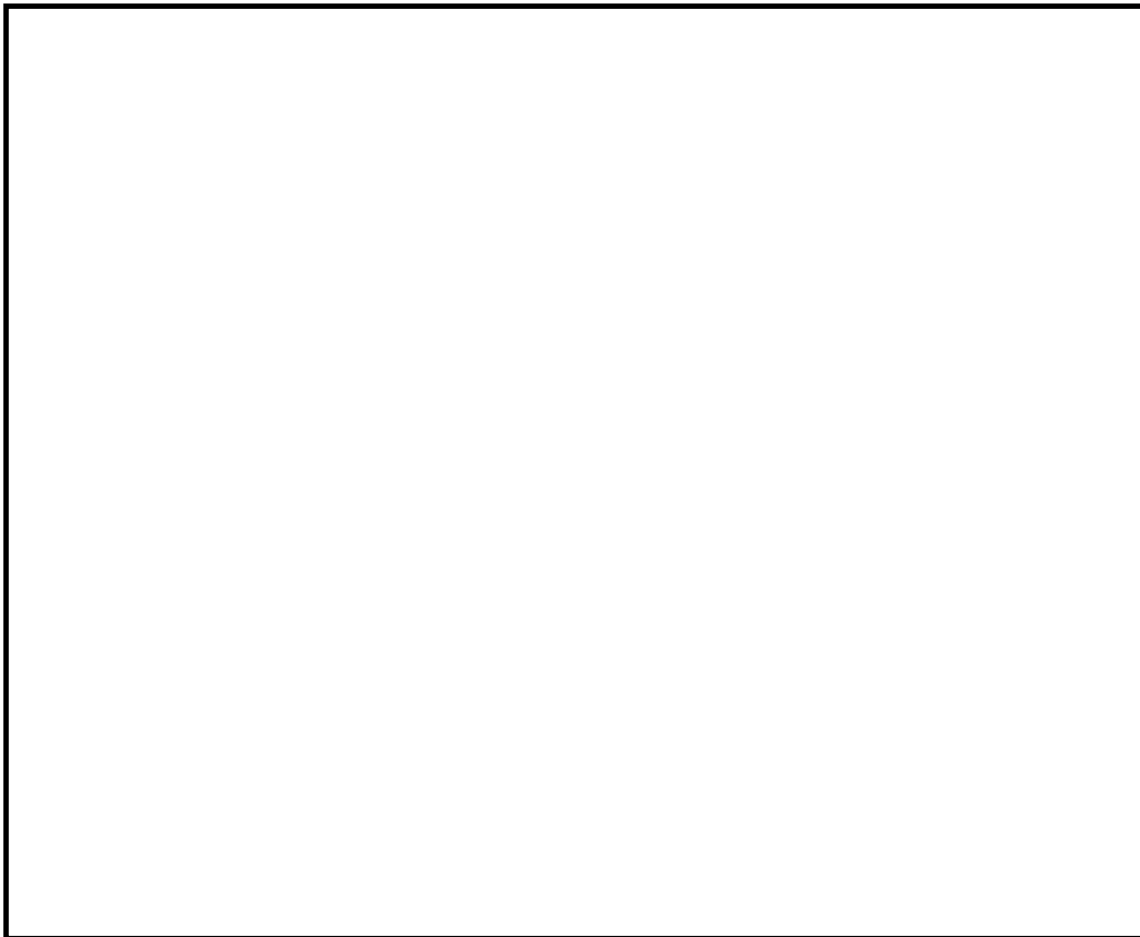
-End of Study-

### **Appendix 1D- Study 1-Question Set 4-High Salience Commitment**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who has a goal of doing well academically at the university.

In the box below, describe how studying hard regularly can help one to do well academically as compared to if one does not study hard regularly.

A large, empty rectangular box with a black border, intended for the respondent to write their answer to the question about studying hard regularly.

Please turn to next page

## APPENDIX

(1) Read the questions given below carefully and circle the appropriate numbers on the scales.

(i) Imagine that you have studied hard for an entire day. As a person who has a goal of doing well academically, indicate on the following scale whether you would feel that you are committed towards your academic goal whenever you study hard for an entire day.

Not at all				A lot		
1	2	3	4	5	6	7

(ii) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(1) Hanging out with your friends that evening (e.g. going to a bar or a restaurant for having some drinks, having good food, relaxing and having fun)?

Not at all likely				Very likely		
1	2	3	4	5	6	7

(2) Watching your favourite programs on television or on online channels like YouTube that evening?

Not at all likely				Very likely		
1	2	3	4	5	6	7

(3) Browsing through shopping websites and buying things that you like.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(4) Playing on your PC for a few hours that evening, such as playing video games or chatting on Facebook with friends?

Not at all likely				Very likely		
1	2	3	4	5	6	7

(2) Referring back to the scenario in Q(1), how much of your academic goal do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
----------------------	-----------------

|.....|

-End of Study-

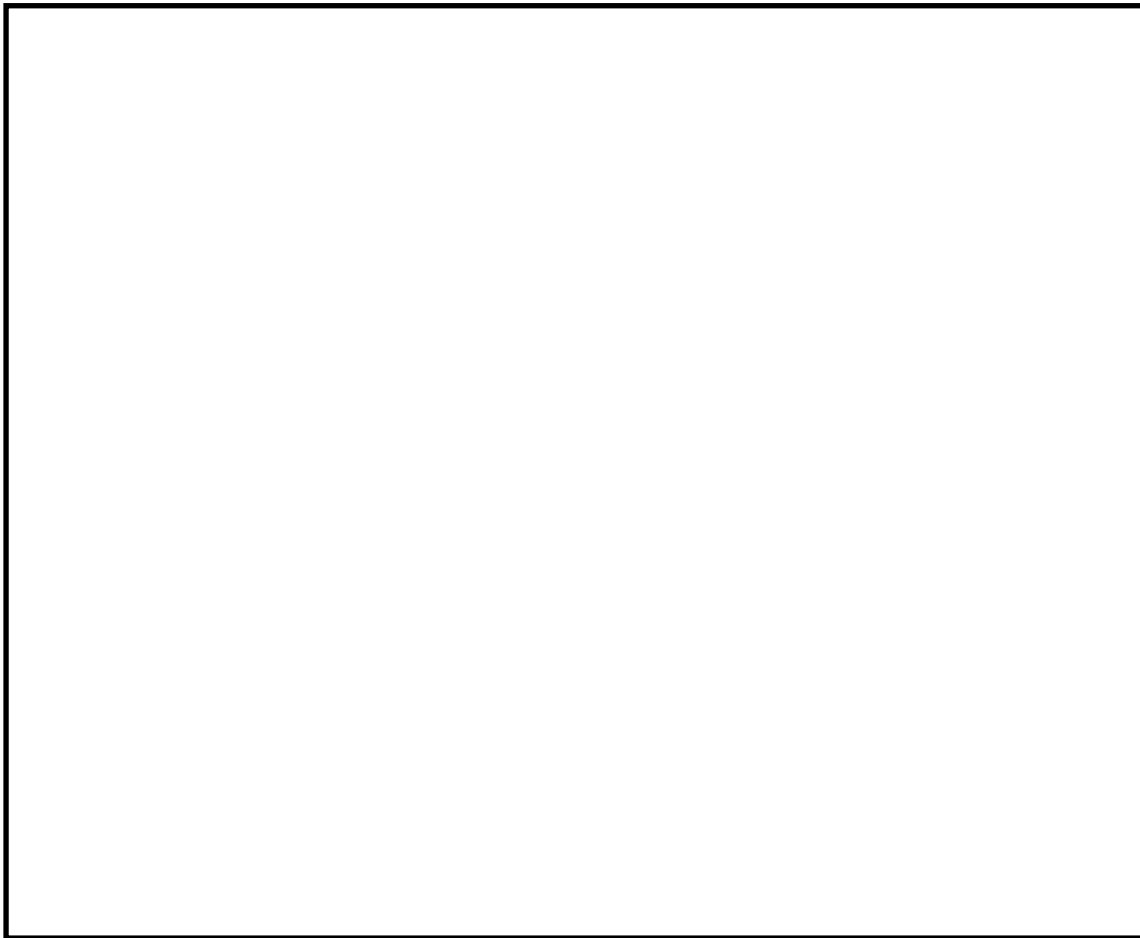


### **Appendix 2A- Study 2-Question Set 1-Goal Progress**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who has a goal of doing well academically at university.

In the box below, describe how studying hard regularly can help one to do well academically as compared to not studying hard regularly.

A large, empty rectangular box with a black border, intended for the respondent to write their answer to the question about studying hard regularly.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied hard for an entire day. As a person who has a goal of doing well academically at university, indicate on the following scale whether you would feel that you have made progress towards your academic goal whenever you study hard for an entire day.

**Not at all**

**A lot**

1      2      3      4      5      6      7

(2) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iii) Browsing through shopping websites that you like.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iv) Attending a sports event.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(3) Referring back to the scenario in Q(1), how much of your academic goal do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**

|.....|

Please turn to next page

(4) The statements given below and in the next page reflect some aspects of your personality. Read each statement carefully and on the scales provided, circle the appropriate numbers which reflect your personality.

(i) When it comes to achieving things that are important to me, I find that I don't perform as well as I would ideally like to do.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(ii) I feel like I have made progress toward being successful in my life.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(iii) I usually obeyed rules and regulations that were established by my parents.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(iv) I see myself as someone who is primarily striving to become the self I "ought" to be—fulfill my duties, responsibilities and obligations.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(v) When I see an opportunity for something I like, I get excited right away.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(vi) I frequently imagine how I will achieve my hopes and aspirations.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(vii) I worry about making mistakes.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

Please turn to next page

(viii) I frequently think about how I can prevent failures in my life.

**Strongly disagree**

**Strongly agree**

1      2      3      4      5      6      7

(ix) I see myself as someone who is primarily striving to reach my “ideal self”—to fulfill my hopes, wishes, and aspirations.

**Strongly disagree**

**Strongly agree**

1      2      3      4      5      6      7

(x) Not being careful enough has gotten me into trouble at times.

**Strongly disagree**

**Strongly agree**

1      2      3      4      5      6      7

Please turn to next page

## APPENDIX

(5) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of doing well academically at university?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of doing well academically at university?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

## **Appendix 2B-Study 2-Question Set 2-Goal Commitment**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who has a goal of doing well academically at university.

In the box below, describe how studying hard regularly can help one to do well academically as compared to not studying hard regularly.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied hard for an entire day. As a person who has a goal of doing well academically at university, indicate on the following scale whether you would feel that you are committed towards your academic goal whenever you study hard for an entire day.

Not at all					A lot	
1	2	3	4	5	6	7

(2) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iv) Attending a sports event.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(3) Referring back to the scenario in Q(1), how much of your academic goal do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
.....	

Please turn to next page

(4) The statements given below and in the next page reflect some aspects of your personality. Read each statement carefully and on the scales provided, circle the appropriate numbers which reflect your personality.

(i) When it comes to achieving things that are important to me, I find that I don't perform as well as I would ideally like to do.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(ii) I feel like I have made progress toward being successful in my life.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(iii) I usually obeyed rules and regulations that were established by my parents.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(iv) I see myself as someone who is primarily striving to become the self I "ought" to be - fulfill my duties, responsibilities and obligations.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(v) When I see an opportunity for something I like, I get excited right away.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(vi) I frequently imagine how I will achieve my hopes and aspirations.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

(vii) I worry about making mistakes.

Strongly disagree					Strongly agree	
1	2	3	4	5	6	7

Please turn to next page



(viii) I frequently think about how I can prevent failures in my life.

**Strongly disagree**

**Strongly agree**

1      2      3      4      5      6      7

(ix) I see myself as someone who is primarily striving to reach my “ideal self”—to fulfill my hopes, wishes, and aspirations.

**Strongly disagree**

**Strongly agree**

1      2      3      4      5      6      7

(x) Not being careful enough has gotten me into trouble at times.

**Strongly disagree**

**Strongly agree**

1      2      3      4      5      6      7

Please turn to next page

## APPENDIX

(5) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of doing well academically at university?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of doing well academically at university?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

### **Appendix 3A- Study 3- Question Set 1- Abstract Goal Progress**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who studies at university with the goal of exploring the wide horizon of knowledge that exists in this world.

In the box below, describe how studying hard regularly can help one to explore the wide horizon of knowledge as compared to not studying hard regularly.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied hard for an entire day. As a person who has the goal of exploring the wide horizon of knowledge that exists in this world, indicate on the following scale whether you would feel that you have made progress towards your goal whenever you study hard for an entire day.

Not at all				A lot		
1	2	3	4	5	6	7

(2) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely				Very likely		
1	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely				Very likely		
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(iv) Attending a sports event.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(3) An abstract goal refers to a goal which is difficult to imagine. A concrete goal is defined as a goal which is easy to imagine. Based on these definitions, do you think that the goal of exploring the wide horizon of knowledge is an abstract goal or a concrete goal? Please provide your response on the scale provided below.

Concrete				Abstract		
1	2	3	4	5	6	7

Please

Please turn to next page

(4) Referring back to the scenario in Q(1), how much of your goal of exploring the wide horizon of knowledge that exists in this world do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**

| ..... |

(5) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of exploring the wide horizon of knowledge that exists in this world?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of exploring the wide horizon of knowledge that exists in this world?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember, choose the description that *you personally believe* is more appropriate in each pair.

**Please turn to next page**

**i. Making a list**

- a. Getting organized
- b. Writing things down

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

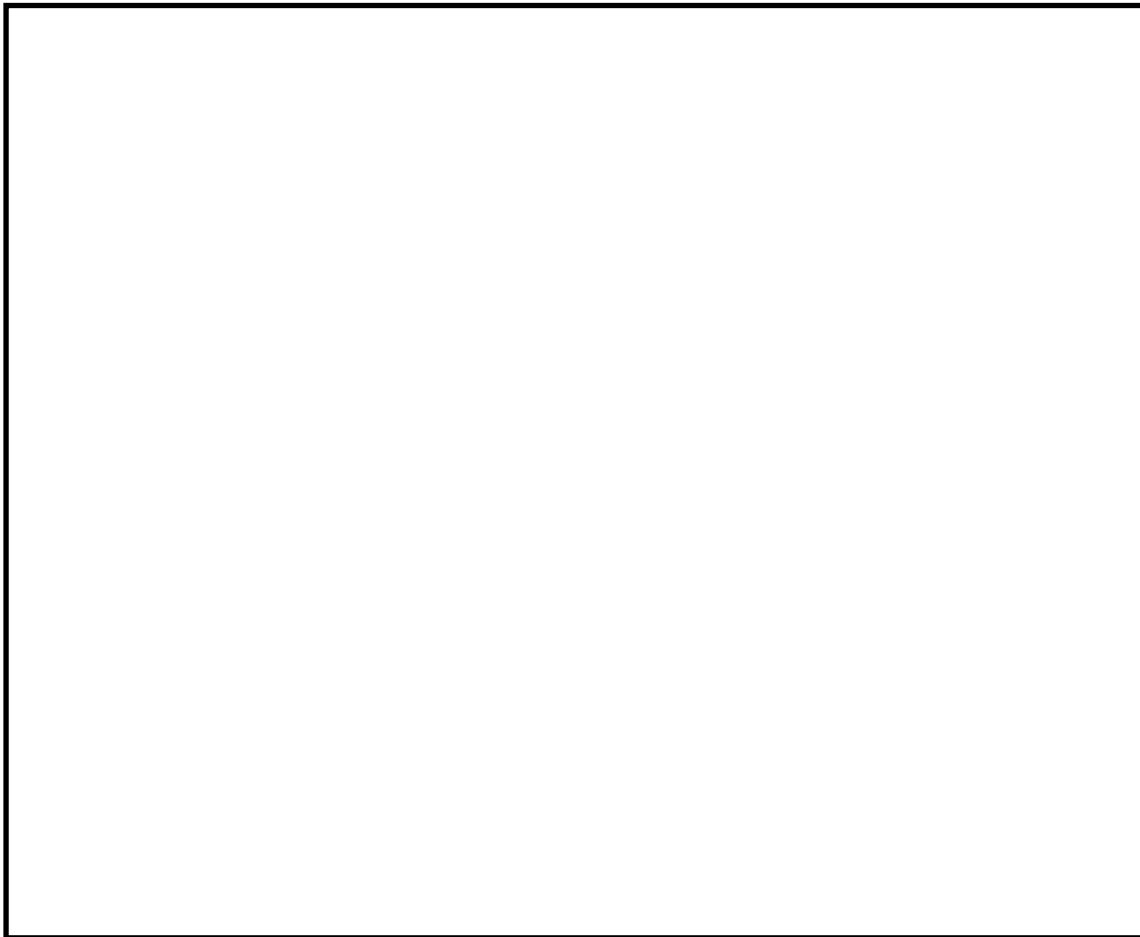
**-End of Study-**

### **Appendix 3B-Study 3-Question Set 2-Abstract Goal Commitment**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who studies at university with the goal of exploring the wide horizon of knowledge that exists in this world.

In the box below, describe how studying hard regularly can help one to explore the wide horizon of knowledge as compared to not studying hard regularly.

A large, empty rectangular box with a black border, intended for the respondent to write their answer to the question about studying hard regularly.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied hard for an entire day. As a person who has the goal of exploring the wide horizon of knowledge that exists in this world, indicate on the following scale whether you would feel that you are committed towards your goal whenever you study hard for an entire day.

Not at all				A lot		
1	2	3	4	5	6	7

(2) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely				Very likely		
2	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely				Very likely		
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(iv) Attending a sports event.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(3) An abstract goal refers to a goal which is difficult to imagine. A concrete goal is defined as a goal which is easy to imagine. Based on these definitions, do you think that the goal of exploring the wide horizon of knowledge is an abstract goal or a concrete goal? Please provide your response on the scale provided below.

Concrete				Abstract		
1	2	3	4	5	6	7

Please turn to next page



(4) Referring back to the scenario in Q(1), how much of your goal of exploring the wide horizon of knowledge that exists in this world do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**

| ..... |

(5) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of exploring the wide horizon of knowledge that exists in this world?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of exploring the wide horizon of knowledge that exists in this world?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember; choose the description that *you personally believe* is more appropriate in each pair.

**Please turn to next page**

**i. Making a list**

- a. Getting organized
- b. Writing things down

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

### **Appendix 3C-Study 3-Question Set 3-Concrete Goal Progress**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who studies at university with the goal of scoring high grades in your subjects.

In the box below, describe how studying hard regularly can help one to score high grades in your subjects as compared to not studying hard regularly.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied hard for an entire day. As a person who has the goal of scoring high grades in his/her subjects, indicate on the following scale whether you would feel that you have made progress towards your goal whenever you study hard for an entire day.

Not at all				A lot		
1	2	3	4	5	6	7

(2) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely				Very likely		
1	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely				Very likely		
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(iv) Attending a sports event.

Not at all likely				Very likely		
1	2	3	4	5	6	7

(3) An abstract goal refers to a goal which is not clear in your mind when you try to imagine it. A concrete goal is defined as a goal which is clear in your mind when you try to imagine it. Based on these definitions, do you think that the goal of scoring high grades in is an abstract goal or a concrete goal? Please provide your response on the scale provided below.

Concrete				Abstract		
1	2	3	4	5	6	7

Please turn to next page

(4) Referring back to the scenario in Q(1), how much of your goal of scoring high grades in your subjects do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**



(5) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of scoring high grades in your subjects?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of scoring high grades in your subjects?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember, choose the description that *you personally believe* is more appropriate in each pair.

**i. Making a list**

a. Getting organized

b. Writing things down

**Please turn to next page**

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

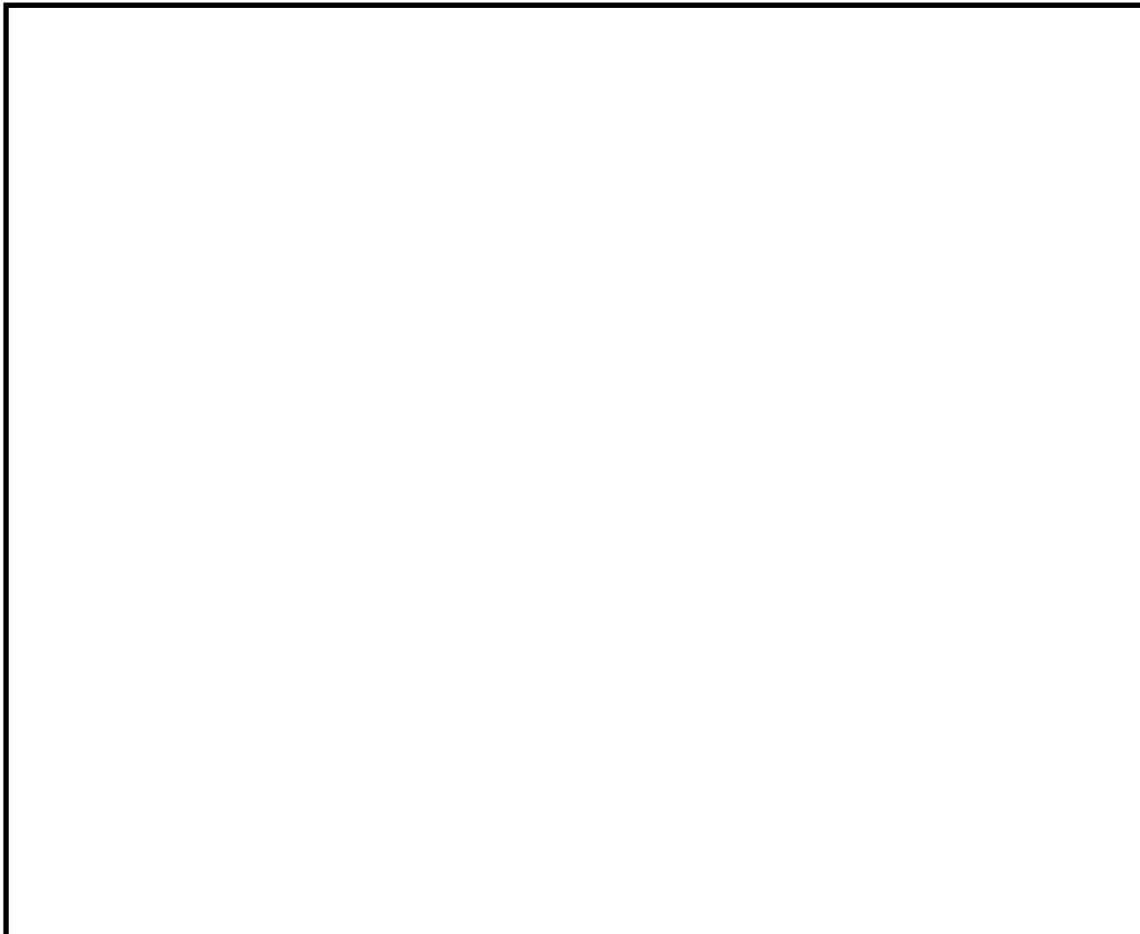
**-End of Study-**

### **Appendix 3D-Study 3-Question Set 4-Concrete Goal Commitment**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine yourself as a person who studies at university with the goal of scoring high grades in your subjects.

In the box below, describe how studying hard regularly can help one to score high grades in your subjects as compared to not studying hard regularly.

A large, empty rectangular box with a black border, intended for the respondent to write their answer to the question about studying hard regularly.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied hard for an entire day. As a person who has the goal of scoring high grades in his/her subjects, indicate on the following scale whether you would feel that you are committed towards your goal whenever you study hard for an entire day.

Not at all							A lot	
1	2	3	4	5	6	7		

(2) Imagine that you have studied hard for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely							Very likely	
1	2	3	4	5	6	7		

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely							Very likely	
1	2	3	4	5	6	7		

(iii) Browsing through shopping websites that you like.

Not at all likely							Very likely	
1	2	3	4	5	6	7		

(iv) Attending a sports event.

Not at all likely							Very likely	
1	2	3	4	5	6	7		

(3) An abstract goal refers to a goal which is not clear in your mind when you try to imagine it. A concrete goal is defined as a goal which is clear in your mind when you try to imagine it. Based on these definitions, do you think that the goal of scoring high grades in your subjects is an abstract goal or a concrete goal? Please provide your response on the scale provided below.

Concrete							Abstract	
1	2	3	4	5	6	7		

Please turn to next page



(4) Referring back to the scenario in Q(1), how much of your goal of scoring high grades in your subjects do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**



(5) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of scoring high grades in your subjects?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of scoring high grades in your subjects?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember, choose the description that *you personally believe* is more appropriate in each pair.

**i. Making a list**

a. Getting organized

b. Writing things down

**Please turn to next page**

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

### **Appendix 4A-Study 4-Question Set 1-Distant Future Progress**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you have a major project submission that is due at the end of the semester. You have to do well in your project in order to get a good grade in the subject. With the goal of doing well in the project, describe how working hard on the project will help you to do well in it.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(2) Referring back to the scenario that you have just imagined, how far do you think is the project submission deadline from today if you were to submit the project at the end of this semester?

**Very Near**

1      2      3      4      5      6      7

**Very Far**

(6) Imagine that you have worked on the project for an entire day. Indicate on the following scale whether you would feel that you have made progress towards your goal of doing well in the project after having worked hard on the project for an entire day.

**Not at all**

1      2      3      4      5      6      7

**A lot**

(3) Imagine that you have worked on the project for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

(iii) Browsing through shopping websites that you like.

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

(iv) Attending a sports event.

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

Please turn to next page

(4) Referring back to the scenario in Q(2), how much of your goal of doing well in the project do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**



(5) Referring back to the scenario in Q(2), how concerned are you about making progress on your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(2), how concerned are you about being committed to your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember, choose the description that *you personally believe* is more appropriate in each pair.

Please turn to next page

**i. Making a list**

- a. Getting organized
- b. Writing things down

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

### **Appendix 4B-Study 4-Question Set 2-Distant Future Commitment**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you have a major project submission that is due at the end of the semester. You have to do well in your project in order to get a good grade in the subject. With the goal of doing well in the project, describe how working hard on the project will help you to do well in it.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Referring back to the scenario that you have just imagined, how far do you think is the project submission deadline from today if you were to submit the project at the end of this semester?

**Very Near**

**Very Far**

1   2   3   4   5   6   7

(2) Imagine that you have worked on the project for an entire day. Indicate on the following scale whether you would feel that you are committed towards your goal of doing well in the project after having worked hard on the project for an entire day.

**Not at all**

**A lot**

1   2   3   4   5   6   7

(3) Imagine that you have worked on the project for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

**Not at all likely**

**Very likely**

1   2   3   4   5   6   7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

**Not at all likely**

**Very likely**

1   2   3   4   5   6   7

(iii) Browsing through shopping websites that you like.

**Not at all likely**

**Very likely**

1   2   3   4   5   6   7

(iv) Attending a sports event.

**Not at all likely**

**Very likely**

1   2   3   4   5   6   7

Please turn to next page



(4) Referring back to the scenario in Q(2), how much of your goal of doing well in the project do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**

|.....|

(5) Referring back to the scenario in Q(2), how concerned are you about making progress on your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1 2 3 4 5 6 7

(6) Referring back to the scenario in Q(2), how concerned are you about being committed to your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1 2 3 4 5 6 7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember, choose the description that *you personally believe* is more appropriate in each pair.

Please turn to next page

**i. Making a list**

- a. Getting organized
- b. Writing things down

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

### **Appendix 4C-Study 4-Question Set 3-Near Future Progress**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you have a major project submission that is due a week from now. You have to do well in your project in order to get a good grade in the subject. With the goal of doing well in the project, describe how working hard on the project will help you to do well in it.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Referring back to the scenario that you have just imagined, how far do you think is the project submission deadline from today if you were to submit the project a week from now?

**Very near**

**Very far**

1      2      3      4      5      6      7

(2) Imagine that you have worked on the project for an entire day. Indicate on the following scale whether you would feel that you have made progress towards your goal of doing well in the project after having worked hard on the project for an entire day.

**Not at all**

**A lot**

1      2      3      4      5      6      7

(3) Imagine that you have worked on the project for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iii) Browsing through shopping websites that you like.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iv) Attending a sports event.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

Please turn to next page

(4) Referring back to the scenario in Q(2), how much of your goal of doing well in the project do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**



(5) Referring back to the scenario in Q(2), how concerned are you about making progress on your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(2), how concerned are you about being committed to your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember; choose the description that *you personally believe* is more appropriate in each pair.

Please turn to next page

**i. Making a list**

- a. Getting organized
- b. Writing things down

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

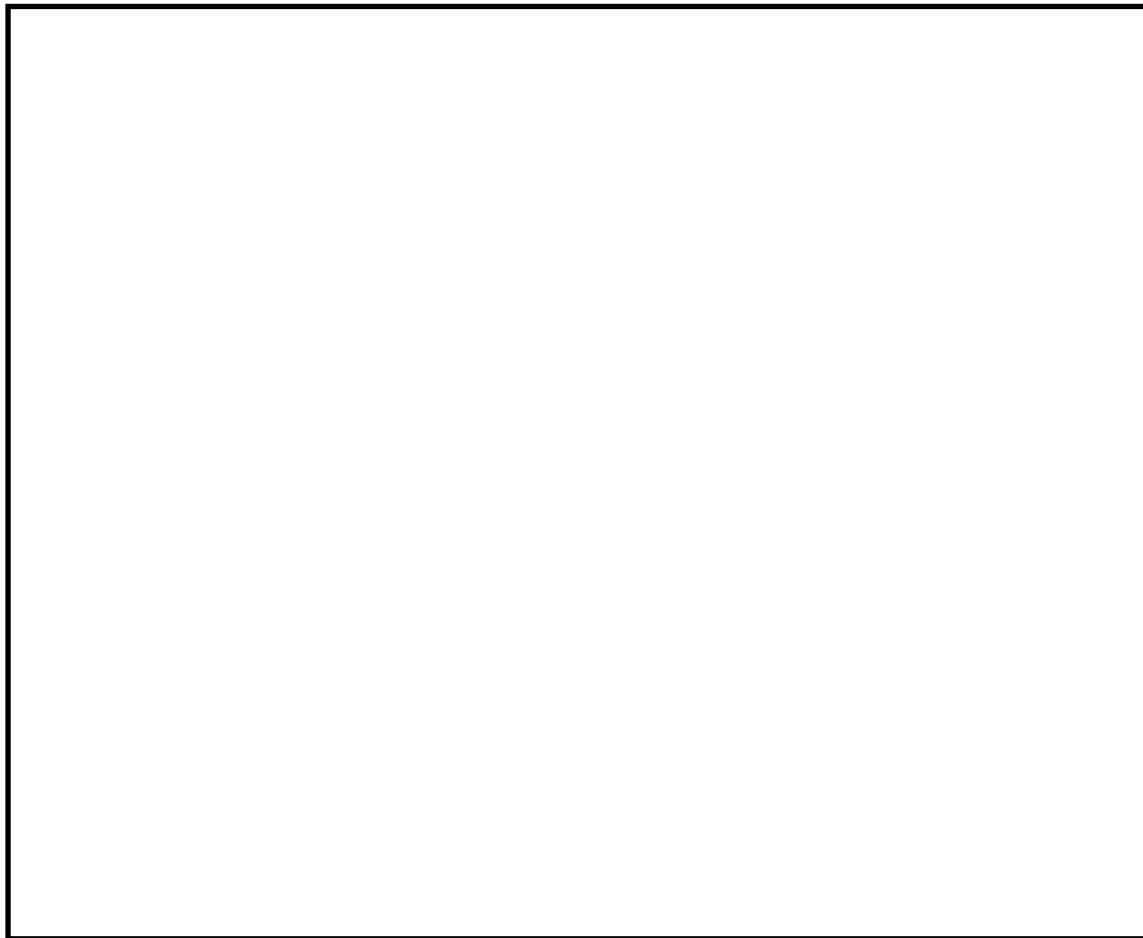
(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

### **Appendix 4D-Study 4-Question Set 4-Near Future Commitment**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you have a major project submission that is due a week from now. You have to do well in your project in order to get a good grade in the subject. With the goal of doing well in the project, describe how working hard on the project will help you to do well in it.

A large, empty rectangular box with a black border, intended for the respondent to write their answer to the survey question.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Referring back to the scenario that you have just imagined, how far do you think is the project submission deadline from today if you were to submit the project a week from now?

**Very Near**

1      2      3      4      5      6      7

**Very Far**

(2) Imagine that you have worked on the project for an entire day. Indicate on the following scale whether you would feel that you are committed towards your goal of doing well in the project after having worked hard on the project for an entire day.

**Not at all**

1      2      3      4      5      6      7

**A lot**

(3) Imagine that you have worked on the project for an entire day. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

(iii) Browsing through shopping websites that you like.

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

(iv) Attending a sports event.

**Not at all likely**

1      2      3      4      5      6      7

**Very likely**

Please turn to next page



(4) Referring back to the scenario in Q(2), how much of your goal of doing well in the project do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**



(5) Referring back to the scenario in Q(2), how concerned are you about making progress on your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Referring back to the scenario in Q(2), how concerned are you about being committed to your goal of doing well in the project?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(7) Any behaviour can be identified in many ways. For example, one person might describe a behaviour as "typing a paper," while another might describe the behaviour as "pushing keys" Yet another person might describe the behaviour as "expressing thoughts." We are interested in your personal preferences for how a number of different behaviours should be described. On the following pages you will find several different behaviours listed. After each behaviour will be two choices of different ways in which the behaviour might be identified.

Here is an example:

1. Attending class

a. sitting in a chair

b. looking at the blackboard

Your task is to choose the identification, a or b, that best describes the behaviour for you. *Simply circle the identification statement that you pick. Please mark only one alternative for each pair.* Of course, there are no right or wrong answers. People simply differ in their preferences for the different behaviour descriptions, and we are interested in your personal preferences. Be sure to mark your choice for each behaviour. Remember; choose the description that *you personally believe* is more appropriate in each pair.

Please turn to next page

**i. Making a list**

- a. Getting organized
- b. Writing things down

**ii. Washing clothes**

- a. Removing odours from clothes
- b. Putting clothes into the machine

**iii. Picking an apple**

- a. Getting something to eat
- b. Pulling an apple off a branch

**iv. Chopping down a tree**

- a. Wielding an axe
- b. Getting firewood

**v. Cleaning the house**

- a. Showing one's cleanliness
- b. Vacuuming the floor

**vi. Paying the rent**

- a. Maintaining a place to live
- b. Writing a check

**vii. Locking a door**

- a. Putting a key in the lock
- b. Securing the house

**viii. Greeting someone**

- a. Saying hello
- b. Showing friendliness

**ix. Travelling by car**

- a. Following a map
- b. Seeing countryside

**x. Having a cavity filled**

- a. Protecting your teeth
- b. Going to the dentist

(8) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

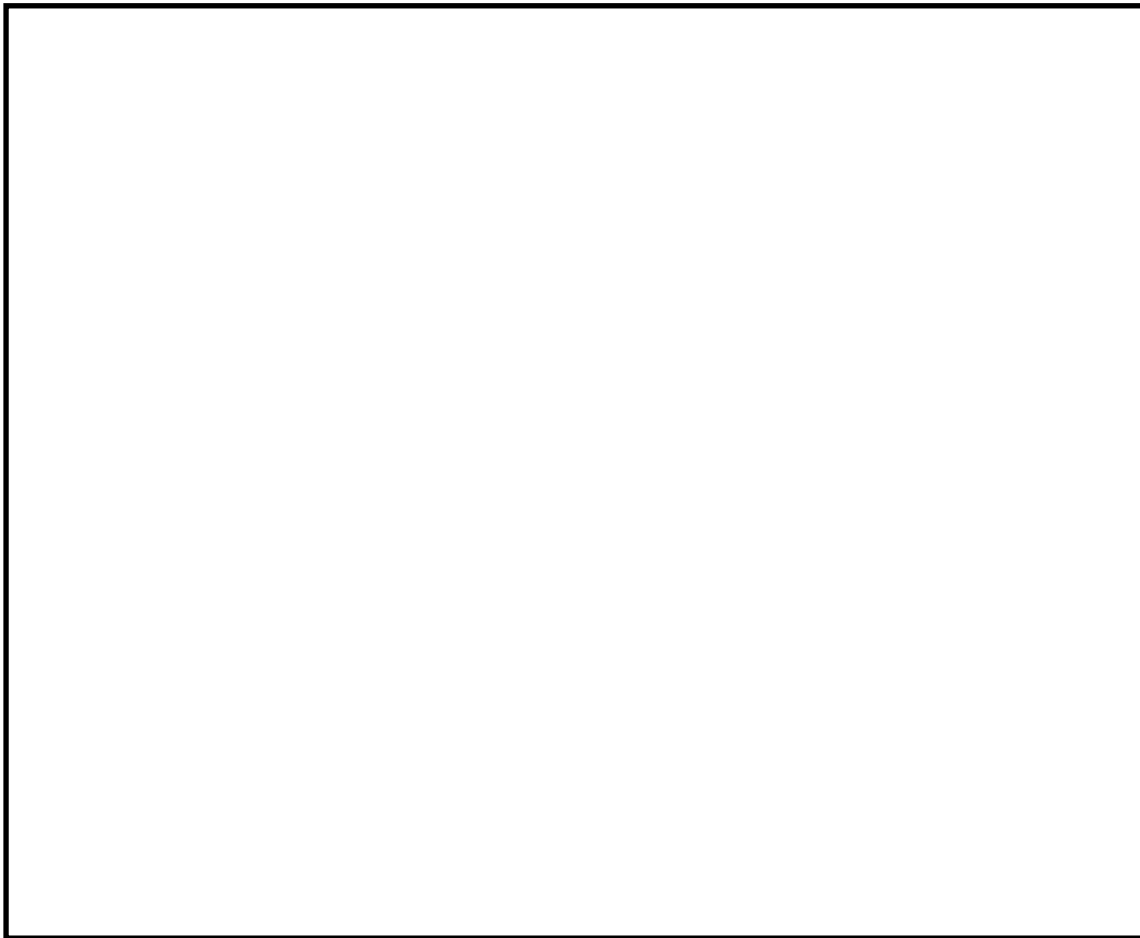
(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

**Appendix 5A (i)-Study 5A-Question Set 1- Progress-20% Goal Completion**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

A large, empty rectangular box with a black border, intended for the respondent to write their response to the survey question.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied for an entire day and have completed reading **two out of the ten chapters** from the text book. Indicate on the following scale whether you would feel that you have made progress towards your exam preparation after having completed reading **two out of the ten chapters**.

Not at all					A lot	
1	2	3	4	5	6	7

(2) Imagine that you have studied for an entire day and have completed reading **two out of the ten chapters** from the text book. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iv) Attending a sports event.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(3) Referring back to the scenario in Q(1), how much of your goal of reading ten chapters from the textbook do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
.....	

Please turn to next page

## APPENDIX

(4) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(5) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

**Appendix 5A (ii) - Study 5A-Question set 2- Progress-50%  
Goal Completion**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied for an entire day and have completed reading **five out of the ten chapters** from the text book. Indicate on the following scale whether you would feel that you have made progress towards your exam preparation after having completed reading **five out of the ten chapters**.

Not at all					A lot	
1	2	3	4	5	6	7

(2) Imagine that you have studied for an entire day and have completed reading **five out of the ten chapters** from the text book. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iv) Attending a sports event.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(3) Referring back to the scenario in Q(1), how much of your goal of reading ten chapters from the textbook do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
.....	

Please turn to next page

(4) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(5) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

-End of Study-



**Appendix 5A (iii) - Study 5A - Questions Set 3- Progress-80%  
Goal Completion**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied for an entire day and have completed reading **eight out of the ten chapters** from the text book. Indicate on the following scale whether you would feel that you have made progress towards your exam preparation after having completed reading **eight out of the ten chapters**.

**Not at all**

**A lot**

1      2      3      4      5      6      7

(2) Imagine that you have studied for an entire day and have completed reading **eight out of the ten chapters** from the text book. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iii) Browsing through shopping websites that you like.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iv) Attending a sports event.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(3) Referring back to the scenario in Q(1), how much of your goal of reading ten chapters from the textbook do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**

| ..... |

Please turn to next page

## APPENDIX

(4) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(5) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

**Appendix 5B (i) - Study 5B - Question Set 1- Commitment - 20% Goal Completion**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

A large, empty rectangular box with a black border, intended for the respondent to write their self-evaluation and predictions.

Please turn to next page

## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied for an entire day and have completed reading **two out of the ten chapters** from the text book. Indicate on the following scale whether you would feel that you are committed towards your exam preparation after having completed reading **two out of the ten chapters**.

**Not at all**

**A lot**

1      2      3      4      5      6      7

(2) Imagine that you have studied for an entire day and have completed reading **two out of the ten chapters** from the text book. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iii) Browsing through shopping websites that you like.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(iv) Attending a sports event.

**Not at all likely**

**Very likely**

1      2      3      4      5      6      7

(3) Referring back to the scenario in Q(1), how much of your goal of reading ten chapters from the textbook do you think you have completed? Indicate your response on the scale provided below.

**Not at all completed**

**Fully completed**

|.....|

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## APPENDIX

(4) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(5) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

-End of Study

**Appendix 5B (ii) - Study 5B - Questions Set 2- Commitment -  
50% Goal Completion**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

Please turn to next page

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied for an entire day and have completed reading **five out of the ten chapters** from the text book. Indicate on the following scale whether you would feel that you are committed towards your exam preparation after having completed reading **five out of the ten chapters**.

<b>Not at all</b>					<b>A lot</b>	
1	2	3	4	5	6	7

(2) Imagine that you have studied for an entire day and have completed reading **five out of the ten chapters** from the text book. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

<b>Not at all likely</b>					<b>Very likely</b>	
1	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

<b>Not at all likely</b>					<b>Very likely</b>	
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

<b>Not at all likely</b>					<b>Very likely</b>	
1	2	3	4	5	6	7

(iv) Attending a sports event.

<b>Not at all likely</b>					<b>Very likely</b>	
1	2	3	4	5	6	7

(3) Referring back to the scenario in Q(1), how much of your goal of reading ten chapters from the textbook do you think you have completed? Indicate your response on the scale provided below.

<b>Not at all completed</b>	<b>Fully completed</b>
.....	

Please turn to next page



## APPENDIX

(4) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(5) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

- End of Study-

**Appendix 5B (iii) - Study 5B - Question Set 3 - Commitment -  
80% Goal Completion**

This is a “Self Evaluation” Survey. In this survey you need to evaluate and predict your behaviour in different situations.

Imagine that you are preparing for an exam which requires you to read ten chapters from your textbook. In the box below, describe what comes to your mind when you have to read ten chapters from the textbook.

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## APPENDIX

Read the questions given below carefully and circle the appropriate numbers on the scales.

(1) Imagine that you have studied for an entire day and have completed reading **eight out of the ten chapters** from the text book. Indicate on the following scale whether you would feel that you are committed towards your exam preparation after having completed reading **eight out of the ten chapters**.

Not at all					A lot	
1	2	3	4	5	6	7

(2) Imagine that you have studied for an entire day and have completed reading **eight out of the ten chapters** from the text book. On the scales provided below, indicate your interest for doing different activities that evening:

(i) Hanging out with your friends that evening (e.g. going to a bar or restaurant for having some drinks, good food, relaxing and having fun).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(ii) Attending a social/cultural event (e.g. a music concert, a dance concert or a play).

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iii) Browsing through shopping websites that you like.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(iv) Attending a sports event.

Not at all likely					Very likely	
1	2	3	4	5	6	7

(3) Referring back to the scenario in Q(1), how much of your goal of reading ten chapters from the textbook do you think you have completed? Indicate your response on the scale provided below.

Not at all completed	Fully completed
.....	

Please turn to next page

## APPENDIX

(4) Referring back to the scenario in Q(1), how concerned are you about making progress on your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(5) Referring back to the scenario in Q(1), how concerned are you about being committed to your goal of reading ten chapters from the textbook?

**Not at all concerned**

**Very concerned**

1      2      3      4      5      6      7

(6) Please provide the following information about yourself:

(i) Gender \_\_\_\_\_

(ii) Age \_\_\_\_\_

(iii) Your desired grade in the subject in which you are getting 1 extra mark for participating in this research study \_\_\_\_\_

(iv) Is English your first language? \_\_\_\_\_

**-End of Study-**

## **Appendix 6 - Sample Study notification and Participant Information Sheet**

### **Study notification**

Dear Students,

You have the opportunity to earn a 1% bonus mark for this subject by participating in a research study to be held on Monday 9th July and Tuesday 10th July.

#### **Study Name:**

**The Opposing Effects of Goal progress and goal commitment on self-regulation**

#### **Study Description:**

Research exploring self-regulation has shown that people tend to make different choices in different situations in life even when the choices that are presented to them do not change. In this research, we tend to explore the reasons behind people behaving differently in different situations in life. We conduct a survey wherein we ask a series of questions to assess as to why people's behaviours vary across different situations in life. There are no right or wrong answers. We are just interested in your opinion. Please refer to the folder named as Participant Information Sheet in your I-Learn page for further details regarding this study.

#### **How do I sign up?**

If you have not already registered visit <http://bonduniversity.sona-systems.com> (please copy and then paste this link into your browser) and click "request an account here" on the left of the screen. Follow the prompts to sign up for an account and then sign up for your choice of timeslot. If you have already registered, log in with your username and password and sign up for a timeslot. Timeslots are available from Monday 9<sup>th</sup> July to Tuesday 10<sup>th</sup> July.

#### **What do I do then?**

Simply turn up to the specified location at your chosen timeslot and complete the study to receive your bonus mark for your chosen subject.

Sign up now as places are limited!

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If you have any other question regarding the study, please contact Anirban Som at [asom@bond.edu.au](mailto:asom@bond.edu.au)

### Location and time of study:

Monday 9 July

10 am- 2pm BLD06\_2\_13

2pm – 4:30 pm BLD06\_4\_25

Tuesday 10 July

10 am- 4:30 pm BLD06\_4\_25

On the day of the research study, students would then come to the designated venue for participating in the study. A class room or a tutorial room or a computer lab was booked for this purpose. In this way, students did not actually lose out on any study time during class hours. In order to encourage participation, short announcements were made in classes (with the consent of the concerned professors) informing students regarding the study objectives and the date, time and venue of the studies. The announcements did not take more than five minutes. Also, important to note here is that based on ethical requirements, only students who were 18 years or above were allowed to participate in the studies.

A participant information sheet was also attached along with the notification for the study. This was a requirement of the ethics committee. In other words, students had to be informed regarding the purpose of the studies a priori i.e. even before they had actually signed up for the study. The Participant Information Sheet looked like the following

### **Participant Information Sheet**

**Project Title:** The Opposing Effects of Goal Progress and Goal Commitment on Self-Regulation

**Ethics Reference Number:** RO 1491/RO 1530

My name is Anirban Som and I am currently completing PhD (Business)

at Bond University under the supervision of Prof Chris Dubelaar and Dr. Rafi Chowdhury. I am conducting a research investigation into the dynamics of self-regulation. As a part of this research, I would invite you to complete a survey. The details of the research study are mentioned below:

**Purpose of the study:**

Research exploring self-regulation has shown that people tend to make different choices in different situations in life even when the choices that are presented to them do not change. In this research, we tend to explore the reasons behind people behaving differently in different situations in life. We conduct a survey wherein we ask a series of questions to assess as to why people's behaviours vary across different situations in life. There are no right or wrong answers. We are just interested in your opinion.

**How we would conduct the study:**

This is a simple pencil and paper survey. You will be asked to imagine yourself as being in a particular situation in life. Subsequently, you would respond to a series of questions. Please read the contents of the survey carefully and give your responses accordingly.

In regards to privacy of your responses, anonymity and confidentiality of data and right to withdraw from the study:

Your responses in the survey will be completely anonymous. You are not to write down your name on the survey. Thus, it will not be possible to match your name to your questionnaire. Your data will be treated with complete confidentiality and will be stored in a safe and secure location at Bond University for a period of five years in accordance with the guidelines set out by the Bond University Human Research Ethics Committee. Data will not be made accessible to any person outside of the Bond University researchers working on the project. Participation in the study

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is completely voluntary and you may withdraw at any time without any penalty imposed.

### **Helplines:**

If you experience distress participating in this research, please contact University Counselling Service located at the Bond University Staff and Student Medical Clinic or Life Line on 13 11 64. Should you have any complaints concerning the manner in which this research is being conducted, please make contact with -

Bond University Human Research Ethics Committee, c/o Bond University Office of Research Services, Bond University, Gold Coast, 4229.

Tel: + 61 7 5595 4194 Fax: + 61 7 5595 1120 e-mail: [buhrec@bond.edu.au](mailto:buhrec@bond.edu.au)